Report
of the
Meteorological Reporter
to the
Government of Bengal
Meteorological Abstract
for the years
1868 to 1874

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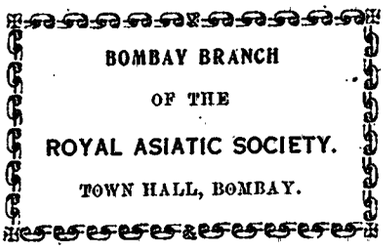

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REPORT

OF THE

METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL,

For the year 1868-69,

WITH A

133037

METEOROLOGICAL ABSTRACT

For the year 1868.

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REPORT OF THE METEOROLOGICAL REPORTER TO THE GOVERNMENT OF BENGAL, FOR THE YEAR 1868-69.

PART I.—ADMINISTRATION.

In the introduction of my Report for the year 1867-68, I defined the objects and duties of the department as mainly two fold, *viz.*, to carry out a system of storm warnings for the protection of the port, and to supervise the existing meteorological records and machinery of record, and render them useful for general information. Up to the date of that report these two divisions of the duties of the Department had, corresponding to them, distinct sets of collecting machinery, different systems of record, and different classes of stations, and they afforded, therefore, a convenient classification for the subject matter of the Report; but during the year now under review, many of these distinctions have been abolished, and the different classes of stations have been to a great extent assimilated in the kind of data registered and the mode of registration. A more convenient and natural classification of the work of the Department, therefore, will be one based on 1*st*, the *collection* of meteorological data; and 2*nd*, their *utilisation*. These two divisions of the subject matter will be treated of under the respective headings,

Meteorological Observation,
Central Office,

and their several sub-divisions.

Meteorological Observation.

Up to the present time meteorological registration has been restricted to the land, and three classes of observing stations have been established in connection with this Department, distinguished respectively as 1st, 2nd, and 3rd class stations. Reports are also received from several stations in correspondence with the Department but not under its control.

1st Class Stations.—The stations of this class as enumerated in my report for 1867-68, are as follow :—

Saugor Island,	established	21st August, 1865.
False Point,	„	October, 1865.
Chittagong,	„	8th May, 1866.
Akyab,	„	7th May, 1866.
Cuttack,	„	21st March, 1867.
Dacca,	„	15th April, 1867.
Darjeeling,	„	1st July, 1867.

At all these stations, with the exception of False Point, the Electric Telegraph Assistant in charge of the local office is appointed meteorological observer

on a salary of Rs. 50 per month. At False Point, the observations are recorded by the Light-house Superintendent as part of his general duties, with a stationary allowance of Rs. 10 per month. The full set of instruments supplied to these stations consists of—

2 Mercurial Barometers.
1 Dry bulb Thermometer.
1 Wet bulb Thermometer.
1 Maximum dry bulb Thermometer.
1 Minimum dry bulb Thermometer.
1 Minimum wet bulb Thermometer.
1 Solar radiation Maximum Thermometer in vacuo.
1 Grass Minimum radiation Thermometer.
1 Robinson's Anemometer.
1 Wind-vane.
1 Rain Guage.

Sheds for the thermometers have been erected at four of the above stations, and will be erected at all, when suitable sites shall have been selected.

The observations are recorded five times daily : the barometer and wet and dry bulb thermometers at the four equi-distant periods, 4h., 10h., 16h., and 22h., and the rain-fall at 18h. The other instruments are recorded at one or more of these hours, according to requirement.

The observations made at 10h. and 16h. are telegraphed to Calcutta from four of the 1st class stations, *viz.*, Saugor Island, Chittagong, Akyab, and Cuttack. These telegrams show the reading of the barometer, the wet and dry bulb thermometers, the wind direction and force, the movement of the lower clouds and the general appearance of the weather. With a view to brevity and despatch, they are given in cipher, a specimen of which is appended. (Appendix A.)

2nd Class Stations.—This class includes ten stations, as sanctioned *viz* :—

Patna.	Jessore.
Gya.	Gowalparah.
Monghyr.	Shillong.
Hazareebaugh.	Cachar.
Berhampore.	Debrooghur.

In my report for 1867-68, I stated that certain recommendations for placing these stations on an improved footing had been submitted to Government by the Meteorological Committee, and were then under consideration. The scheme proposed by the Committee received the sanction of Government for one year as an experiment on the 16th July 1868, and steps were at once taken to carry it into execution.

According to this scheme, the 2nd class Observatories were placed under the superintendence of the Civil Surgeons of the respective stations, a Native Observer, instructed by the Meteorological Reporter, being appointed to perform the actual work of the Observatory. The Civil Surgeon receives a superintendence allowance of Rs. 30 per month; the Observer, (who has no other duties to perform) a monthly salary of Rs. 40.

The equipment of instruments is essentially the same for 2nd as for 1st class stations, and is as follows :—

1 Barometer.
1 Dry bulb Thermometer.
1 Wet bulb ditto.
1 Maximum dry bulb Thermometer.
1 Minimum ditto ditto.
1 Minimum wet bulb ditto.
1 Solar radiation maximum ditto in vacuo.
1 Grass radiation minimum.
1 Robinson's Anemometer.
1 Wind-vane.
1 Rain Guage.
1 Reading Lens.
1 American Clock.
1 Bulls-eye Lantern.

The thermometers are placed under a shed similar to that at 1st class stations, and in the hours of observation, forms of register, &c., there is also complete conformity. It has appeared advisable that, wherever practicable, a resident of the station should be appointed as the local observer, and as in some cases there has been some difficulty in finding a suitable person, four of the ten Observatories had not been completely established at the close of the year under report. One of these, however, *viz.*, Hazareebaugh, was virtually in full working order at an earlier period than any other station, the medical officer in charge, Dr. Coates, having preferred to make his own arrangements for carrying on the observations, and to draw merely the superintendence allowance for his station. It is due to Dr. Coates to observe, that for accuracy and completeness, his returns are unsurpassed by any received from other stations. To two other stations, *viz.*, Cachar and Gya, Observers had been appointed at the close of the year, but they had not assumed charge of their stations. One alone, Shillong, is still unprovided. The Observers took charge of their respective Observatories at the remaining stations from the dates following :—

Berhampore	17th October, 1868.
Monghyr	13th Nobember, „
Patna	25th ditto., „
Jessore	10th December, „
Gowalparah	4th January, 1869.
Debrooghur	1st March, „

Hazareebaugh (no paid Observer) transmitted full reports from 10th July, 1868.

3rd Class Stations.—From these stations, as a general rule, a return of rain-fall only is received. This is registered by the local subordinate Medical Officer as a part of his regular duties. According to the directions issued by this office, the reading of the rain guage should be recorded at 6 P. M. daily. From various causes, these rain-fall returns can be accepted only as a rough approximation to the truth ; but so regarded, they have considerable practical value. When these stations shall have been furnished with guages of uniform pattern, and shall have been subjected to efficient inspection, it may be possible to give a higher scientific value to their returns. The following 3rd class stations have reported during the year :—

Kishnagur.
Howrah.
Kooshteah.
Furreedpore.
Burdwan.
Sooree.
Bancoorah.
Balasore.
Chuprah.
Buxar.
Rampore Beauleah.
Rungpore.
Julpigoree.
Noakhally.
Tezpore.
Samoogoodting.
Tipperah.
Rangamatea Hill (Chittagong Hill Tracts).

Hooghly.	Maldah.
Serampore.	Bograh.
Pubna.	Dinagepore.
Alipore.	Mynagoree.
Raneegunge.	Gowhatty.
Midnapore.	Nowgong.
Pooree.	Seebsangor,
Sumbulpore.	Burrisaul.
Arrah.	Sylhet.

In addition to the returns from the stations above classified, a few are communicated regularly from officers in other Presidencies, and from Observers in Bengal not officially connected with the department. The Government Astronomer in Madras forwards a daily telegram in the same form as those despatched from 1st class telegraphing stations, and the Meteorological Reporter for the North-Western Provinces at Roorkee, and the Principal of Benares College, send copies of their fortnightly and weekly registers. A daily report of the 10h. and 16h. observations, and a bi-monthly register of all instruments, as well as a copy of the barometric curve protracted from the hourly observations, and copies of the weekly and monthly abstracts published in the *Calcutta Gazette*, are received from the Calcutta Observatory. The following gentlemen have also furnished reports of the rain-fall and some other observations for their respective stations:

Captain H. H. Godwin Austin, Cherra Poonjee.
J. C. Vertannes, Esq., Contai.
Dr. Foster, Dholebagan.

And finally, Dr. Curran of Port Blair having, on my recommendation, been furnished with a set of instruments, forwards a register which the peculiar position of his station near the cradle of some of our most destructive cyclones renders one of very great value. Dr. Allen of Midnapore forwards a similar report for his station, and others less full and of various degrees of value are received from the Medical Officers of some other stations on the 3rd class list.

It would at present be premature to offer any decided opinion on the value of the meteorological observations recorded at the 1st and 2nd class stations above enumerated. During the last cold season, I visited one first class and two second class stations, and I have lately visited another of the former class. Neither of the second class stations had been organised on an improved footing, and they were among those least favourably placed for obtaining intelligent natives as Observers. While, therefore, they afforded instructive examples how untrustworthy a Meteorological Register is likely to be, if left to the unremunerated zeal of an untrained subordinate, they could in no way be admitted as representing average results even under the old system. At the two first class stations I have visited, Dacca and Chittagong, the work of observation was to all appearance carefully and conscientiously performed, and, as far as I can form an opinion from the registers forwarded to me, and from correspondence with the officers in charge or superintending, I believe that such is very generally the case at stations of both classes.

I trust during the present year as my other duties may permit, to visit the majority of the 1st and 2nd class stations not yet inspected.

For some months after the establishment of my office the principal difficulties in the way of obtaining trustworthy registers arose from the want of knowledge of instruments and their use on the part of the local observers, and it was but rarely that they could obtain information on such subjects from any local resident. The publication of a little book of Instructions and Rules for their special use has done much to remove these difficulties, and such training as the means at my command have enabled me to give to the native Observers appointed to 2nd class stations, has also helped to raise the character of the registers. But much still remains to be done in this direction, and until means are afforded in Calcutta to train and instruct, by practice in a working Observatory, as far as their opportunities allow, all who are appointed either as Observers or to the superintendence of Observatories, I do not look for that efficiency which I believe to be attainable under the system. Certain recommendations to this end have been submitted to Government, and are now under consideration.

Meteorological Registration at Sea.—An enquiry into the Meteorology of Indian Seas is an indispensible adjunct to any systematic investigation of that of the land, since all the principal Meteorological elements (barometric pressure, temperature, humidity, wind-direction, &c.,) are either determined or greatly modified by the difference in the relations of sea and land. The meteorological conditions of the Bay of Bengal more especially have an immediate bearing of the highest importance on that part of the work of the department which relates to storm warnings, and the information already available on this head has shown the urgent necessity for systematic observation at sea as well as on land. I have, therefore, made arrangements for establishing, on a small scale, and at first experimentally, a system of meteorological registration in Indian Seas, similar to that which has now been for some years in operation in connection with the Meteorological Department of the Board of Trade for all parts of the Ocean; and I have much pleasure in acknowledging the important assistance which has been readily afforded me in this undertaking by that department, under the directorship of Mr. R. H. Scott. At the close of the year under report, arrangements were almost completed for a first issue of instruments.

CENTRAL OFFICE.

The work of the Central Office may be classified, as in my report for the previous year, as—

A. Daily Reports to Newspapers.
B. Weekly Reports in the *Gazette*.
C. Monthly Abstracts.
D. Rain-fall Reports.
E. Annual Report for all Stations.
G. Special Reports.
F. Storm Warnings.

(A.) **Daily Reports.**—A Report is sent to the offices of the daily newspapers every afternoon about 5 P.M. It gives the Calcutta observations for 10hs. and 16h. of the day of issue, and all telegraphic reports received since the previous day's issue and up to 5 P. M. The following table, compiled for the

months of February and August (those in which the telegraph lines are subject to few and to a maximum of interruptions respectively), will fairly represent the average regularity of the telegraphic reports. Each station sends two reports daily, but from Madras the two are despatched in one telegram, and this never reaches Calcutta on the day of despatch.

Stations.	Report issued for publication.									
	On day of observation.		One day after.		Two days after.		Three days after.		More than 3 days after.	
	Feb.	Aug.	Feb.	Aug.	Feb.	Aug.	Feb.	Aug.	Feb.	Aug.
Saugor Island ...	57	59	...	3	...	...	...	...	...	...
Cuttack	22	21	26	30	6	10	3	1	1	...
Chittagong ...	17	8	39	26	4	11	...	8	...	6
Akyab ...	12	1	35	23	9	12	3	13	...	10
Madras ...	0	...	27	23	30	31	4	8	...	...

(*B.*) **Weekly Reports.**—Up to the close of the past calendar year, the reports published weekly in the *Gazette* comprised the full registers received from all stations, with the calculated daily means of the chief elements. But it was found that while the preparation and printing of these reports, occupying several closely printed pages of the *Gazette*, entailed much labor and a certain considerable expense, it was impracticable to issue them until several weeks after the period to which they referred. Thus their ephemeral interest was lost, while the form of publication in scattered supplements, was not adapted for permanent record. They were therefore discontinued in this form from December last, and the weekly publication in the *Gazette* has since been restricted to the telegraphic reports for the previous week and the rain-fall returns for all stations.

(*C.*) **Monthly Abstracts.**—An abstract of the mean Meteorological elements for all 1st and 2nd class stations, as well as of those stations external to Bengal which forward full registers, is prepared for each calendar month and published in the *Calcutta Gazette*. This report has been made more detailed than in the previous year. A specimen is given *(Appendix B)*.

(*D.*) **Rain-fall Reports.**—These Reports are now prepared weekly for 58 stations, and sent to the Board of Revenue every Thursday. Special forms of return have been issued to the reporting stations. It is directed that these be dispatched by post every Monday, and, except from the more distant stations, they should thus reach the Meteorological Office in time for incorporation in the Thursday report. Those which arrive too late are incorporated in the report for the follow-

ing week, and the report shows also the total rain-fall at each station from the 1st January up to the date of the return last received. (*See specimen, Appendix C*).

(*E.*) **Annual Reports.**—A summary of the Meteorological results of the past calendar year is published herewith. I do not propose at present to publish the detailed data, as, with perhaps some exceptions, I do not consider that they are of a character to justify the expense of such publication; and until all the stations have been inspected, and their defects ascertained and rectified, the detailed returns will be filed in the office, where they are open to the inspection of any who may wish to consult them. Copies of such as are considered fairly trustworthy are furnished also to applicants, on their paying the cost of copying.

(*G.*) **Special Reports.**—No Special Report has been published during the past year.

(*F.*) **Storm Warnings.**—Storm Signals have now been supplied to the Chamber of Commerce and the Trades Association, and, by the permission of the Asiatic Society, similar signals have been deposited at their building, and a mast and yard for hoisting them have been erected on the roof. The Government Dock-yard and the Sailors' Home have also been provided with sets of signals, so that, in the event of threatening weather, warnings will be communicated to the shipping and town from five conspicuous points, three of which are situated in the commercial part of the town. The signals consist of a *double cone* and a *drum*. The former is intended as a *caution* signal, and will be displayed whenever the appearance of the weather is such as usually precedes a cyclone; the latter will be hoisted when, from telegraphic reports and other sources of information, there is good reason to believe that such *a storm is actually approaching* the port. These signals are intended for conveying warnings during day-light only. Night signals are provided at the Dock-yard and Sailors' Home for warning the shipping. They consist of lamps arranged as a *lozenge* and *square* respectively, corresponding to the double cone and drum. Happily there has been no occasion during the past year to use any of these signals.

Library.—The Library has received presentations from the following Scientific Institutions and Societies and other donors, amounting to 201 works and parts of works.

1. Académie Royale, Amsterdam.
2. Académie Royale de Belgique.
3. Chamber of Commerce, Calcutta.
4. Government of Bengal.
5. Home department of the Government of India.
6. K. K. Geologische Reichsanstalt, Vienna.
7. K. K. Central Austalt für Meteorologie und Erd Magnetismus, Vienna.
8. Meteorological Department of the Board of Trade, London.
9. Meteorological Reporter, North-Western Provinces.
10. Ditto, Punjab.
11. Royal Observatory, Greenwich.
12. Royal Society, London.
13. Royal Asiatic Society of London.
14. Smithsonian Institute, Washington.

15. Society of Arts, London,
16. Superintendent of Kew Observatory.
17. Superintendent of Bombay Observatory.
18. Washington Observatory.

The Cape of Good Hope Observatory, which should have appeared in the list given in my last year's report, was omitted by oversight.

Sixty-one works and pamphlets have also been purchased for the library.

FINANCE.

The total expenditure of the Department for the past year, exclusive of the cost of instruments, and a few other charges, which are not debited to the Budget of this Department, has amounted to Rs. 13,968-11-9, distributed as follows :—

	Rs.	As.	P.			
Salaries—						
Meteorological Reporter...	3,600	0	0			
Office Establishment	1,685	8	2			
Observers	4,454	11	6			
Superintendent's allowances	1,126	14	2			
				10,867	1	10
Central Office—						
Printing	1,031	0	0			
Contingent	419	5	8			
Purchase of Books	500	0	0			
				1,950	5	8
Observatories (land)—						
Building and repairs	150	0	4			
Furniture (including clocks, &c.)	259	8	0			
Lighting, Stationery, &c.	168	6	8			
				577	15	0
Thermometer cages for ship	55	8	0			
				55	8	0
Travelling expenses—						
Meteorological Reporter...	401	8	0			
Observers	116	5	3			
				517	13	3
Total				13,968	11	9

PART II.—METEOROLOGICAL ABSTRACT FOR 1868.

Introductory Remarks.

In drawing up the following summary of Meteorological results for the year 1868, the data have been dealt with on the principles laid down in the introduction of my Report for the previous year. Every endeavour has been made to determine and eliminate the constant errors inherent to the instruments, and those due to their faulty position, and thus to render the registers of the several stations comparable the one with the other. Until, however, all the stations shall have been thoroughly inspected, it will not be possible to affirm that no constant error affects the register. These are such that, in some cases, personal inspection alone can detect them, and experience shows that however detailed and minute may be the instructions given, they alone are insufficient to ensure results thoroughly trustworthy. At the same time, by instruction, acquired in various ways, as well as by increased experience, the Observers at the different stations have, for the most part, so improved in the practice of their work that in point of accuracy the registers for the past year are superior to those summarised in my last Report. This remark must be understood to apply only to stations of the 1st and 2nd classes, those at which barometric and thermometric registers are kept. As has been observed in the administrative portion of the Report, the returns from stations reporting rain-fall only must be accepted in many cases as approximative rather than exact.

The number of stations at which a full register is kept, and for which barometric and thermometric data, &c., are here given, has been increased to twelve in Bengal, one in Arracan, and one in the Andaman Islands,—and I have added, for comparison, a summary of the returns for Roorkee, Benares, and Madras, for which I am indebted to Dr. Murray Thomson, the Meteorological Reporter for the N. W. Provinces, and Mr. Pogson, the Government Astronomer at Madras.

The Meteorological elements recorded are, or will be, when the stations shall be fully equipped,—

Barometric pressure,
Temperature (mean) of air.
Maximum temperature of air.
Minimum „ „
Humidity.
Temperature of solar radiation.
Minimum temperature of grass nocturnal radiation.
Wind direction.
„ force or velocity.
Rain-fall.
Cloud—forms, and quantity.
General atmospheric appearances.

But instruments are not yet available for obtaining a complete register from any station. There are, however, but few hiatus in the registers of the more important instruments.

Hours of Observation.

The hours of observation of the barometer, thermometer, and hygrometer, and in general of the wind direction and velocity, clouds and weather appearances, are 4h, 10h, 16h, and 22h, corresponding to the periods of average maximum and minimum barometric pressure. Local time has been observed at the majority of the stations, and should have been so at all, but it was lately found that, owing to misapprehension of the directions given, at Cuttack, Dacca, Chittagong and Akyab, telegraph or Madras time has been observed. This is 22 minutes later than Cuttack local time, 46 minutes later than Chittagong time, 41 minutes later than Dacca time, and 50 minutes later than Akyab time. The chief effect of this error of practice on the register, is to diminish the apparent range of the barometer, as deduced from the difference of the 10h and 16h observations, and the column for range is, therefore, left blank for these stations.

The minimum thermometers are recorded at 10h, and the maximum at 18h, up to which hour the rain-fall for the day is reckoned.

Stations.

The stations reporting have been classified in the first portion of this Report as 1st, 2nd, and 3rd class stations, but in discussing the registers it is needless to distinguish those of the first two classes.

The following table gives their respective geographical positions, and those of the stations external to Bengal, the registers of which are herein given; also the elevation of the barometer above sea level; or that of the general level of the station, where the exact elevation of the instrument has not been ascertained. I append, moreover, a brief description of the physical geography of each station, as far as I am able to do so from a personal knowledge of the place, or from trustworthy information.

Station.	Lat. N.	Long. E.	Elevation in feet.	Remarks.
Port Blair	11° 41′	92° 42′	218	
Madras	13° 5′	80° 17′	29	Barometer cistern.
Akyab	20° 8′	92° 57′	25	Barometer cistern approximately.
False Point	20° 20′	26° 47′	18·7	Barometer cistern.
Cuttack	20° 29′	85° 54′	80	
Saugor Island	21° 39′	88° 5′	4	
Chittagong	22° 21′	91° 50′	*108	Barometer cistern approximately.
Calcutta...	22° 33′	88° 21′	18·11	Barometer cistern.
Jessore	23° 9′	89° 7′	15	Approximately.
Dacca	23° 43′	90° 27′	*35	Barometer cistern approximately.
Hazareebaugh	24°	85° 24′	2010	
Berhampore	24° 6′	88° 17′	80	
Patna	25° 37′	85° 8′	171	
Monghyr	25° 22′	86° 30′	148·12	GTS Bench Mark.
Darjeeling	27° 3′	88° 18′	6730	
Benares...	25° 20′	83° 2′	253·30	Cantonment B. M.
Roorkee...	29° 52′	77° 56′	905	Roorkee College (L.M.)

* These determinations, although not accurate, are within a few feet of the truth. The elevation of Chittagong was erroneously given as 166·47 ft in my Report for 1867; and that of Dacca as 22 ft.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger Island. A range of mountains runs through the island from north to south, protecting Port Blair in some measure from the south-west monsoon. The Observatory is situated on Viper Island, a small rocky islet some distance up the harbour.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's, Mount, and Palaveram (7 and 10 miles from Fort St. George). The country rises gradually to the westward, forming the plains of the Carnatic or Payenghaut, and the nearest hills of considerable elevation are the Naggery Hills, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Akyab, on the coast of Arracan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne river, much of which is flooded in the rainy season. The Arracan Hills, covered with an almost impenetrable jungle, are at a few miles distance to the north-east of the station.

False Point.—The light-house is a conspicuous land mark on the coast of Orissa, standing on a prominent point of the Mahanuddy delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant 50 miles. The coast line trends about north-east and south-west, so that winds from east and south are sea winds, those from west and north, land winds.

Cuttack is built on flat alluvial ground at the head of the Mahanuddy delta. The river, one of the largest in the peninsula of Hindostan, issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches, the Kajouri and the Mahanuddy, in the fork of which Cuttack is situated. To the west and north the country is hilly, and much covered with jungle, while to east and south of the station stretches the delta of the Mahanuddy, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island, the telegraph station at which is also the Meteorological Observatory, is situated close to the south-western extremity of Saugor Island, one of the low lying alluvial islands of the Soonderbuns, and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal, to the west and north-west the estuary of the Hooghly, here about 20 miles broad, with the low marshes of Hidgellee beyond. To the east and north-east stretch the swampy jungles of the Soonderbuns, much of which are flooded at spring tides. Indeed, the station itself is below high water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arracan mainland, in the extreme north-east corner of the Bay of Bengal, and opposite to the embouchure of the Megna, the largest

estuary of the Gangetic delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, and forming the port of Chittagong, here enters the sea, from which the station of Chittagong is distant about 3 miles. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of the more elevated plain, formed of highly inclined (tertiary?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about 20 miles distant. Thus situated, the station is exposed to the brunt of the south-west monsoon, and the rain-fall, as along all the Arracan coast, is comparatively heavy.

Calcutta is situated 68 miles from the sea, and about the same distance from the western edge of the Gangetic delta alluvium, which formation stretches away northward to the Himalaya, 400 miles distant, and eastward for 200 miles nearly to the Tipperah Hills. About 3 miles to the east of Calcutta is the margin of the Salt Lake, a shallow brackish water lagoon in an unfilled depression of the delta. To the south of this much of the Soonderbun land is still unreclaimed from jungle, but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jhils) occur in many directions around Calcutta, and over all parts of the delta. The climate of Calcutta is, therefore, moist, and the herbage green throughout the year. The thermometer range, both annual and daily, is less than at stations higher up the country, and the latter in the driest month of the year (March) does not exceed 19° or 20°

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca, between the former course of the Brahmaputra, (still in its lower part a broad channel, the Megna) and that which the river now follows to its confluence with the Pudda or Ganges, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at the southern extremity of this tract, within a few miles of the Megna, on the bank of a small branch of the Brahmaputra. To the south is a network of broad rivers stretching to the sea, and in other directions (except the north) rice lands and grass jungle, which are flooded in the rains. At that time of year, with the exception of the Madhopore jungle, but little land is visible. Hence the high humidity of the station.

Hazareebaugh is situated in the elevated and hilly country of Chota Nagpore. I am not acquainted with this station, and reserve any detailed description for a future report.

Berhampore, 170 miles from the sea, on the left bank of the Bhagirutee, 30 miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground begins to rise from a short distance

to the west of the river, up to the foot of the Rajmehal hills, and the undulating country of Beerbhoom.

Patna, on the south bank of the Ganges, below the confluence of the Soane, and surrounded by the alluvial plains of these rivers.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the northern extremity of the Kurruckpoor range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quartzites, and presreving the same mineral characters, they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain; to the south and south-east, the rocky and elevated country of Hazareebaugh and the Damin-i-koh, chiefly covered with forest, and of which the Kurruckpore hills form the north-western corner.

Darjeeling, on a spur of the Singalelah range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The E. T. Office, at which the thermometers, barometer and rain-guage are kept, is in the latter position, a little below the summit. The wind vane, &c., are on the crest of the ridge.

Benares, on the north bank of the Ganges, 180 miles west of Patna. From the south bank of the river the alluvium extends to the foot of the Kymore plateau which intervenes between the valleys of the Ganges and the Soane. To the north is the flat alluvial expanse of Oude.

Roorkee, near the head of the Ganges canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

Barometers.

The instruments used at the majority of the stations, are mountain barometers, most ofthem on Fortin's principle, with a moveable plug for adjusting the mercury level in the cistern to the zero of the scale. At Akyab, a mountain barometer was used, which, owing to some unascertained defect, was so slow in action as to make the apparent range not more than $\frac{1}{3}$ or $\frac{1}{2}$ of that shown by other instruments of similar construction. The means of the readings of the several hours are therefore approximate only, but the daily means of the several months are apparently not much affected from this cause. The instruments have all been compared (before issue) with the Calcutta standard, and the corrections thus obtained have been applied to the registered readings. All the results have been reduced to the temperature of 0°C.

In the following Barometric Tables the monthly means of the several hours of observation are given for all the stations as far as they have been recorded, and the mean of each month deduced from the above. Also the range of the barometer between 10h. and 16h. which, in most months, are nearest the periods of highest maximum and lowest minimum, as may be seen from the table published by Colonel Walker in the Journal of the Asiatic Society, (Part II No. 2 of 1868.) The relation of this range to the actual range of the day at Calcutta may be gathered from the table below, which gives the mean difference of the 10h. and 16h. observations, and the actual mean range for each month of the past year as deduced from the hourly observations. For those stations and periods, for which two daily series of observations only are available, the mean of these is given, as approximately the mean of the month, and is distinguished by an (*). That there is but little difference between the daily means thus obtained, those deduced from four daily series and the means of hourly observations, will be seen from the following table which gives the monthly means thus variously deduced, for Calcutta, for the past year, and for comparison, the monthly means deduced by Colonel Walker from 10 years' observations.

Months.	Mean Range 1868.		Mean Pressures.			
	From 10h. to 16h.	Deduced from hourly obs.	Of 10h and 16h 1868.	Of 4 daily obs. 1868.	Of hourly obs. 1868.	Of hourly obs. for 10 years.
	inch.	inch.	ins.	ins.	ins.	ins.
January ...	·137	·142	30·050	30·040	30·038	30·017
February ...	·133	·143	29·963	29·957	29·956	29·941
March ...	·132	·144	29·894	29·886	29·885	29·861
April ...	·130	·150	29·773	29·772	39·774	29·753
May ...	·120	·153	29·765	29·763	29·764	29·645
June ...	·085	·111	29·548	29·552	29·552	29·541
July ...	·085	·107	29·581	29·585	29·584	29·532
August ...	·091	·111	22·576	29·586	29·586	29·591
September ...	·110	·125	29·677	29·681	29·682	29·681
October ...	·112	·118	29·870	29·865	29·862	29·820
November. ...	·124	·129	29·969	29·965	29·963	29·961
December	·129	·134	30·061	30·055	30·052	30·020

Hence it appears that in the cold weather months, the range of the barometer between 10h. and 16h. is approximately that of the day; in other words, these hours very nearly coincide with the periods of absolute maximum and minimum: whereas in June, the range between the same hours is little more than three-

fourths of that shown by the results of hourly observations. The differences of columns 1 and 2, and their ratios for each month are as follow.—

Months.	Differences.	Ratios.
January ...	·005 inch.	·964:1
February ...	·010 „	·930:1
March ...	·012 „	·916:1
April ...	·020 „	·861:1
May ...	·033 „	·791:1
June ...	·026 „	·765:1
July ...	·022 „	·794:1
August ...	·021 „	·819:1
September ...	·015 „	·880:1
October ...	·006 „	·949:1
November ...	·005 „	·961:1
December ...	·005 „	·962:1

Probably for such stations as Berhampore, Jessore, and Dacca, the above ratios between the 10h. and 16h. mean range, and the actual barometric mean range would be found to hold good, but it is clear that while they vary with the length of the day in such a manner that the hours of 10 and 16 are most nearly those of barometric maximum and minimum when the days are shortest, and that, as is shewn by Colonel Walker's table,* the maximum occurs at an earlier and the minimum at a later hour when the days are longest, no formula will express the law of variation, that does not include as a second variable factor, the local humidity of the atmosphere for the different months; and it is far from probable that the same ratios would be found to apply to such places as Chittagong and Akyab on the one hand, or Patna and Benares on the other. It is, however, foreign to the object of the present report to enter on a discussion of the laws of the barometric tides, and it is not in this particular relation that the subject would be most advantageously treated.

The means of 10h. and 16h. approach much more nearly to the actual means as deduced from 24 hourly observations; and those of the four 6-hour periods deviate from the latter by an amount practically insignificant.

* Journ. As. Soc. Bengal, 1868, Part. II., No. 2.

Barometric Mean Monthly Pressures for 1868.

MADRAS.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·985*		30·043	29·928		·115
February	29·962*		30·024	29·900		·124
March	29·911*		29·974	29·849		·125
April	29·812*		29·890	29·734		·156
May	29·771*		29·830	29·712		·118
June	29·683*		29·771	29·655		·116
July	29·727*		29·780	29·675		·105
August	29·743*		29·802	29·685		·117
September	29·764*		29·825	29·704		·121
October	29·863*		29·918	29·808		·110
November	29·934*		29·983	29·885		·098
December	30·007*		30·059	29·955		·104

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February						
March						
April						
May						
June	29·589*		29·625	29·553		·072
July	29·612*		29·639	29·585		·054
August	29·596*		29·629	29·563		·066
September	29·630*		29·671	29·589		·082
October	29·668*		29·717	29·620		·097
November	29·705*		29·757	29·653		·104
December	29·758*		29·810	29·706		·104

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·966*		30·014	29·918		
February	29·930	29·911	29·982	29·883	29·944	
March	29·887	29·872	29·943	29·850	29·886	
April	29·851	29·851	29·892	29·819	29·844	
May	29·824	29·827	29·851	29·792	29·829	
June	29·727	29·725	29·738	29·715	29·732	
July	29·730	29·728	29·744	29·719	29·731	
August	29·694	29·692	29·707	29·679	29·701	
September	29·771	29·765	29·793	29·748	29·781	
October	29·848	29·841	29·877	29·814	29·860	
November	29·881	29·865	29·901	29·865	29·895	
December	29·997	29·988	30·022	29·966	30·011	

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·997	29·963	30·059	29·954	30·015	·105
February	29·927	29·915	29·977	29·872	29·947	·105
March	29·867	29·847	29·921	29·813	29·886	·108
April	29·745	29·730	29·807	29·691	29·754	·116
May	29·718	29·696	29·771	29·665	29·740	·106
June	29·549	29·522	29·581	29·513	29·582	·069
July	29·544	29·519	29·577	29·508	29·572	·069
August	29·557	29·530	29·593	29·517	29·588	·076
September	29·636	29·604	29·677	29·596	29·668	·081
October	29·825	29·797	29·879	29·782	29·843	·097
November	29·935	29·922	29·986	29·886	29·947	·100
December	30·028	30·011	30·081	29·979	30·042	·102

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·954	29 935	30·017	29·891	29·974	·126
February	29·889	29·896	29·942	29·811	29·907	·131
March	29·813	29·800	29·873	29·748	29·832	·125
April	29·694	29·690	29·756	29·619	29·711	·137
May	29·672	29·670	29·731	29·611	29·676	·120
June	29·530	29·513	29·565	29·489	29·555	·076
July	29·533	29·520	29.563	29·488	29·562	·075
August	29·486	29·461	29·530	29·437	29·517	·093
September	29·652	29·630	29·701	29·599	29·678	·102
October	29·841	29·825	29·895	29·792	29·855	·103
November	29·936	29·919	29·991	29·880	29·955	·111
December	30·013	30·005	30·077	29·958	30·012	·119

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·044*		30·097	29·992		·105
February	29·919*		29·975	29·864		·111
March	29·898*		29·946	29·851		·095
April	29·753*		29·801	29·706		·095
May	29·732	29·714	29·775	29·689	29·750	·086
June	29·518	29·500	29·544	29·487	29·543	·057
July	29·531	29·520	29·559	29·499	29·548	·060
August	29·471	29·460	29·502	29·436	29·487	·066
September	29·612	29·598	29·653	29·562	29·635	·091
October	29·803	29·784	29·852	29·759	29·816	·093
November	29·932	29·917	29·993	29·885	29935	·108
December	30·051	30·022	30·108	30·007	30·066	·101

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·917*		29·965	29·870		·095
February	29·861*		29·905	29·817		·088
March	29·798*		29·849	29·748		·091
April	29·712	29·691	29·780	29·676	29·702	·104
May	29·692	29·690	29·738	29·636	29·706	·102
June	29·515	29·507	29·544	29·473	29·538	·071
July	29·546	29·540	29·574	29·503	29·567	·071
August	29·519	29·510	29·548	29·472	29·549	·077
September	29·638	29·640	29·669	29·584	29·660	·084
October	29·778	29·773	29·828	29·717	29·796	·111
November	29·852	29·833	29·899	29·805	29·873	·094
December	29·935	29·919	29·982	29·890	29·949	·092

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·040	30·012	30·119	29·982	30·049	·137
February	29·957	29·929	30·030	29·897	29·973	·133
March	29·886	29·856	29·960	29·828	29·900	·132
April	29·772	29·753	29·838	29·708	29·789	·130
May	29·763	29·743	29·825	29·705	29·781	·120
June	29·552	29·529	29·591	29·506	29·582	·085
July	29·585	29·568	29·624	29·539	29·610	·085
August	29·586	29·564	29·628	29·537	29·617	·091
September	29·681	29·661	29·732	29·622	29·708	·110
October	29·865	29·842	29·926	29·814	29·880	·112
November	29·965	29·939	30·031	29·907	29·982	·124
December	30·055	30·028	30·126	29·997	30·069	·129

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·029*		30·096	29·963		·133
February	29·945*		30·011	29·880		·131
March	29·875*		29·935	29·816		·119
April	29·761*		29·825	29·697		·128
May	29·746*		29·806	29·686		·120
June	29·526*		29·575	29·478		·097
July	29·570*		29·611	29·529		·082
August	29·558*		29·602	29·514		·088
September	29·675*		29·723	29·628		·095
October	29·848*		29·897	29·800		·097
November	29·935*		29·992	29·878		·114
December	30·037*		30·097	29·977		·120

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February	29·970	29·966	30·022	29·917	29·977	
March	29·901	29·886	29·961	29·844	29·914	
April	29·803	29·797	29·867	29·747	29·801	
May	29·790	29·781	29·850	29·725	29·806	
June	29·573	29·554	29·632	29·514	29·593	
July	29·595	29·589	29·635	29·540	29·619	
August	26·565	29·551	29·606	29·511	29·594	
September	29·698	39·687	29·746	29·635	29·726	
October	25·855	29·837	29·897	29·818	29·869	
November	29·959	29·944	29·996	29·919	29·976	
December	30·046	30·028	30·097	29·998	30·061	

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	27·987*		28·035	27·939		·096
February	27·911*		27·956	27·866		·090
March	27·878*		27·924	27·833		·091
April	27·780*		27·828	27·733		·095
May	27·759*		27·801	27·717		·084
June	27·578*		27·611	27·546		·065
July	27·567*		27·614	27·520		·094
August			Barometer			
September			broken.			
October	27·897	27·872	27·947	27·857	27·913	·090
November	27·968	27·944	28·017	27·927	27·986	·090
December	28·019	27·998	28·075	27·969	28·036	·106

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·964*		30·011	29·918		·093
February	29·897*		29·958	29·837		·121
March	29·822*		29·881	29·754		·137
April	29·700*		29·775	29·625		·150
May	29·700*		29·762	29·639		·123
June	29·471*		29·520	29·422		·098
July	29·514*		29·563	29·465		·098
August	29·514*		29·561	29·467		·094
September	29·621*		29·679	29·564		·115
October	28·816*		29·873	29·760		·11
November	29·923	29·912	29·980	29·861	29·939	·119
December	30·014	30·001	30·079	29·948	30·029	·131

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February	29·805*		29·857	29·754		·103
March	29·703*		29·768	29·639		·129
April	29·590*		29·646	29·535		·111
May	29·569*		29·629	29·510		·119
June	29·357*		29·397	29·318		·079
July	29·370*		29·416	29·324		·092
August	29·402*		29·445	29·359		·086
September	29·495*		29·548	29·443		·105
October	29·699*		29·751	29·647		·104
November	29·813*		29·871	29·756		·115
December	29·892	29·865	29·960	29·850	29·892	·110

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February						
March						
April	29·591*		29·673	29·510		·163
May	29·550*		29·639	29·471		·158
June	29·364*		29·418	29·310		·108
July	29·391*		29·443	29·339		·104
August	29·412*		29·460	29·364		·096
September	29·528*		29·581	29·476		·105
October	29·734*		29·793	29·676		·117
November	29·840*		29·897	29·784		·113
December	29·921	29·906	29·971	29·887	29·921	·084

DARJEELING.

	Mean.	4hs.	10hs.	16hs.	22hs.	Range.
January	23·312	23·336	23·409	23·332	23·373	·077
February	23·297	23·266	23·328	23·266	23·314	·062
March	23·324	23·300	23·364	23·296	23·339	·068
April	23·304	23·293	23·344	23·269	23·311	·075
May	23·341	23·324	23·376	23·313	23·354	·063
June	23·214	23·207	23·236	23·186	23·228	·050
July	23·230	23·217	23·251	23·206	23·248	·045
August	23·235	23·218	23·258	23·210	23·255	·048
September	23·311	23·302	23·347	23·286	23·331	·061
October	23·391	23·371	23·428	23·367	23·399	·061
November	23·408	23·394	23·447	23·377	23·416	·070
December	23·388	23·374	23·427	23·362	23·389	·065

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·143	29·129	29·190	29·110	29·146	·080
February	29·054	29·031	29·094	29·020	29·073	·074
March	29·001	28·974	29·050	28·971	29·012	·079
April	28·873	28·858	28·921	28·838	28·877	·083
May	28·821	28·806	28·874	28·791	28·815	·083
June	28·629	28·625	28·679	28·588	28·624	·091
July	28·648	28·637	28·694	28·613	28·651	·081
August	28·657	28·647	28·703	28·623	28·656	·080
September	28·783	28·782	28·838	28·744	28·771	·094
October	28·971	28·949	29·025	28·938	28·974	·087
November	29·072	29·061	29·135	29·047	29·048	·088
December	29.152	29·130	29·211	29·116	29·153	·095

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·838?	29·823	29·873	29·812?	29·845	·061?
February	29 747	29·730	29·806	29·702	29·750	·104
March	29·667	29·649	29·736	29·614	29·671	·122
April	29·522	29·518	29·584	29·475	29·514	·109
May	29·489	29·482	29·545	29·438	29·493	·107
June	29·310	29·307	29 360	29·259	29·317	·101
July	29·314	29·307	29·360	29 268	29 321	·092
August	29·361	29·344	29·403	29·327	29·370	·076
September	29.449	29 434	29·497	29·403	29·462	·094
October	29·641	29·629	29·698	29·577	29·661	·121
November	29·772	29·753	29·827	29·726	29·783	·101
December	29·854	29·831	29·914	29·811	29·861	·103

Calcutta is the only station of those here enumerated for which the mean barometric pressures of a long series of years are available for comparison with those of the year under review. The monthly means of 10 years, published by Colonel Walker, have already been given at page 14, side by side with those for the past year, and they exhibit the somewhat remarkable result that the mean barometric pressure for every month of last year, except one (August) was higher than the average of the ten years. This has induced me to calculate the means for a longer period, viz., for the sixteen years 1853-68, during which hourly observations have been recorded at the Surveyor-General's Office; and to compare the means of each month and year, with a view to ascertain if any secular change be apparent in the barometric pressure. The result is shown in the following table :—

ERRATUM, PAGE 25.

For { January 29·948 | February 30·025 } { January 30·025 | February 29·948

Comparative Table of Mean monthly Barometric pressures at Calcutta, for the years 1853-1868.

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	Dec.	Mean
Mean.	29·948.	30·025.	29·859.	29·757.	29·655.	29·543.	29·536.	29·592.	29·634.	29·834.	29·966.	30·029.	29·781.
1853	+·014	—·038	—·013	—·012	+·013	—·018	—·064	+·038	—·028	+·033	—·055	—·012	—·012
4	—·007	+·018	—·019	—·048	+·033	+·001	+·016	—·011	—·034	+·017	+·020	—·001	—·002
5	—·005	+·057	+·015	+·003	—·010	+·017	—·018	—·022	+·007	+·019	+·020	—·013	+·007
6	+·027	+·015	+·001	—·031	—·005	+·002	—·044	+·050	—·011	—·041	+·003	—·004	—·003
7	·000	—·061	—·024	+·003	—·058	—·015	+·011	—·072	+·071	+·036	—·003	+·012	—·008
8	—·028	+·030	—·010	+·015	—·072	—·013	+·030	—·034	+·055	—·005	+·051	+·006	+·002
9	—·024	+·032	+·019	+·052	+·041	+·011	—·006	+·060	+·065	—·038	—·011	—·019	+·013
1860	—·005	—·035	—·052	·000	—·042	+·001	—·004	+·013	—·017	—·024	—·036	—·017	—·018
1	—·046	—·034	—·006	—·046	—·045	+·029	—·002	+·005	—·019	—·032	—·045	—·021	—·022
2	—·013	—·023	—·041	+·035	+·029	+·007	—·021	—·053	+·020	—·067	—·041	—·065	—·012
3	+·021	—·008	—·033	—·052	—·030	—·036	—·017	—·037	—·041	—·020	—·018	+·003	—·022
4	—·030	—·009	+·009	—·016	+·074	+·005	—·031	+·029	·000	+·032	+·067	+·007	+·011
5	+·044	+·024	+·063	+·038	—·004	+·007	+·029	+·031	—·008	+·014	—·016	+·005	+·019
6	+·019	+·008	—·048	+·012	—·009	—·025	+·051	—·008	—·018	+·004	+·022	+·050	+·005
7	+·026	+·018	+·035	+·036	—·016	+·033	+·021	+·015	—·039	+·046	+·042	+·048	+·022
8	+·016	+·008	+·026	+·017	+·109	+·009	+·048	—·006	—·002	+·028	—·003	+·023	+·023

Hence it would appear that the mean barometric pressure of the last two years has been sensibly higher than the mean of the 16 years, and, indeed, if the figures were thoroughly trustworthy, higher than that of any single year in that period; but nothing like any definite cycle of variation can be detected in the table. But there is one fact for which I am indebted to Colonel Gastrell, which forbids any such hasty conclusion. The observations above summarised have been made on the same barometer throughout, and in the same position; but in August, 1866, a film or crust of mercurous oxide was removed from the surface of the cistern; and inasmuch as this oxide is less dense than mercury, if the crust were tolerably thick and had been long in accumulating, it is clear that a sensible error would affect all readings made from its surface; and thus a portion of the apparent deficit in the means of previous years, (or of apparent excess in those of the last two years,) would be accounted for.

To facilitate comparison, *inter se*, the monthly means of the several stations have been reduced to sea level from the elevations given at page 10, and for the temperatures given in the following pages. Darjeeling has not been included in this reduction.

Barometric Monthly Means reduced to Sea level, 1868.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	Dec.
Port Blair ...	.....	.....	.....	.....	.....	29·810*	29·835*	29·819*	29·853*	29·891*	29·928*	29·982*
Madras ...	30·015*	29·992*	29·941*	29·841*	29·800*	29·742*	29·756*	29·772*	29·792*	29·892*	29·955*	30·037*
Akyab ...	29·993*	29·956	29·913	29·877	29·850	29·753	29·756	29·720	29·797	29·874	29·907	30·023
False Point ...	30·017	29·946	29·884	29·763	29·736	29·567	29·562	29·575	29·654	29·843	29·953	30·048
Cuttack ...	30·038	29·973	29·896	29·776	29·754	29·613	29·615	29·568	29·735	29·924	30·020	30·097
Chittagong ...	30·021*	29·974*	29·909*	29·823	29·802	29·626	29·657	29·630	29·749	29·922	29·964	30·048
Saugor Island.	30·048*	29·919*	29·902*	29·757*	29·736	29·522	29·535	29·475	29·516	29·807	29·936	30·055
Calcutta ...	30·059	29·976	29·904	29·790	29·781	29·570	29 603	29·601	29·699	29·868	29·983	30·074
Hazareebaugh.	30·063*	29·948*	29·890*	29·789*	29·720*	29·546*	29·509*	?	?	29·953	30·010	30·093
Jessore ...	30·045*	29·961*	29·885*	29·776*	29·761*	29·541*	29·584*	?	29·695*	29·863*	29·950*	30·053*
Berhampore ...	30·053*	29·976*	29·894*	29·777*	29·777*	29·547*	29·590*	29·590*	29·715*	29·882*	30·002	30·093
Dacca ...	.....	30 013	29·942	29·844	29·831	29·614	29·636	29·605	29·739	29·896	29·999	30·088
Monghyr ...	.....	.....	.....	29·742*	29·701*	29·515*	29·542*	29·564*	29·679*	29·878*	29·996*	30·078
Patna ...	.....	29·984*	29·878*	29·762*	29·740*	29·549*	29·542*	29·574*	29·684*	29·872*	29·989*	30·074
Benares ...	30·214	30·020	29·928	29·883	29·747	29·570	29·573	29·621	29·710	29·902	30·038	30·125
Roorkee ...	30·085	30·004	29·914	29·763	29·694	29·491	29·517	29 523	29·658	29·861	30·000	30·091

Temperature of Air.

The instruments used for recording the temperature are for the most part of Messrs. Negretti's and Zambra's manufacture and of recent construction. Many of them have passed through my hands before they were issued, and as far as could be judged from a cursory comparison appeared to be fairly accurate. Some minimum thermometers supplied to 1st Class Stations, which had been for some time in the country, were compared with a Kew standard thermometer through a range of temperature greater than that to which they are exposed in use, and a table of corrections constructed for such instrument.

It has been mentioned in the first part of this Report, that at most stations the thermometers for recording the temperature of the air are placed in a cage with open wire-netting in back and front, under a thatched shed, open all round. The exceptions are Akyab, Chittagong, Dacca, Darjeeling, and Cuttack. At the second of these Stations they are placed in a very airy room with doors on three sides opening into verandahs; and although the brickwork of the building inevitably diminishes the range of temperature, the exposure may be considered equal to that afforded in a verandah. A similar remark will apply to Dacca, where the thermometers were placed against a masonry column in the middle of a large upper room facing to the North, and with windows (which were generally open), on three sides. At Cuttack the thermometers were in a verandah facing to North.

The range of temperature at several Stations is given by the self-registering maximum and minimum thermometers directly, and is affected only by instrumental errors, which, I believe to be in every case trivial. The mean temperatures are calculated from the four daily observations whenever these are available. At some Stations at which this is not the case, but at which the minimum temperature is recorded, I have given the mean as calculated from this latter and the 16h observation—a method proposed, I believe, originally by Messrs. Schlagintweit. By either of these methods an approximation to the actual mean temperature is obtained. But even the former is less accurate than when applied to barometric readings, since the curve of daily temperature is less regular in form than the ordinary barometric wave. A comparison of the results of these methods for Calcutta, and the means of the maximum and minimum temperatures, with the means deduced from hourly observations, is given in the following table. I give also, for comparison, the corresponding means of the hourly observations of 15 years:—

	Means for 1868 of				Mean for 16 years
	4h. 10h. 16h. & 22h.	Min. & Max.	Min & 16h.	Hourly obs.	Of hourly obs.
January ...	68·6	68.8	68·3	68·3	67·6
February ...	72·6	72·8	72·5	72·1	72·8
March ...	80·0	80·5	80·2	79·5	80·5
April ...	83·5	84·	83·1	83·1	84·5
May ...	84·6	85·2	84·2	84·3	86·
June ...	83·8	83·8	83·1	83·6	84·9
July ...	84·4	84·8	84·1	84·2	83·5
August ...	83·5	83·7	83·1	83·3	83·
September ...	83·2	83·8	82·8	83·1	83·2
October ...	82·4	82·7	82·1	82·2	81·4
November ...	75·2	75·6	74·9	75·	74·7
December ...	69·0	69·3	68·6	68·7	67·8

From the above it appears that either the mean of four equiperiodic observations daily, or that of the minimum and 16h. observations gives a result very close to the real mean temperature. At some stations, indeed, the difference of the results yielded by the two former methods is somewhat greater than at Calcutta. Thus, at Hazareebaugh, the $\frac{\text{min}+16\text{h.}}{2}$ mean is about 1° lower than that obtained by the other method, but neither can be considered as exact. In the following tables the means deduced by Messrs. Schlagintweit's method are distinguished by an (*) :—

Maximum, Minimum, and Mean Monthly Temperatures for 1868.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range	Lowest Min.	
									Day.	°		Day.	°
January ...	76·4*		78·8	80·4		81·1	8·6	72·5	28th	84·0	17·0	11th	67·0
February ...	76.8*		80·9	8.16		821	10·1	72·0	28-29	84·0	14·0	29th	70·0
March ...	78·8*		82·7	83·4		84·6	10·4	74·2	24th	89·0	18·0	6th	71·3
April ...	82·3*		85·8	86·8		87·8	10·0	77·8	30th	92·0	17·0	27th	75·0
May ...	80·1*		84.7	83·4		86·4	9·6	76·8	1st	93·0	19·0	9th	74·0
June ...	82·2*		84·2	84·6		86·2	6·4	79·8	14th	89·0	14·0	20th	75·0
July ...	79·6*		82·6	82·9		84·3	8·0	76·3	2nd	89·0	16·0	14th	73·0
August ...	80·1*		82·9	82·8		85·1	7·6	77·5	24th	89·0	15·0	28—29	74·0
September...	79·2*		82·6	81·6		84·6	7·8	76·8	26th	87·0	13·0	29th	74·0
October ...	79·8*		83·5	83·6		85·6	9·5	76·1	28th	88·0	16·0	6th	72·0
November...	78·8*		82·6	82·2		85·4	9·9	75·5	19—20	88·0	15·0	16th	73·0
December...	77·7*		31·0	81·4		82·0	8·0	74·0	2—3	84·0	15·0	27th	69·0

	MADRAS.					AKYAB.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			77.6	77·6		.....	.....	69·8	77·1	.....
February ...			82·2	82·4		73·9	70·4	72·3	78·9	74·1
March ...			84·9	84·8		77·4	74·4	77·8	82·9	74·5
April ...			91·3	87·6		82·7	79·9	83·5	85·6	82·1
May ...			92·9	89·3		84·4	80·8	85·5	87·6	84·0
June ...			89·5	88·9		82·9	81·6	83·7	84·0	82·3
July ...			86·8	88·2		81·6	79·9	82·6	82·9	81·0
August ...			87·6	89·5		82·3	80·2	83·7	83·9	81.7
September ...			87·8	87·9		82·8	80·2	84·9	84·2	81·9
October ...			86·4	84·7		81·3	77·7	84·1	83·9	79·8
November ...			82·0	81·5		78·6	76·1	80·6	81·0	76·8
December ...			81·0	80·0		71·3	67·8	74·0	74·9	68·6

	FALSE POINT.					CUTTACK.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	69·5	63·8	71·5	72·8	70·0	69·3	63·1	70·3	76·2	67·6
February ...	74·3	69·5	76·4	77·5	73·9	74·0	68·0	75·3	80·9	71·9
March ...	78·9	75·4	80·5	81·7	78·3	79·0	71·8	81·2	86·3	76·9
April ...	83·5	81·3	84·5	85·6	82·8	86·0	80·5	87·7	91·1	84·8
May ...	86·2	84·9	86·6	87·3	86·1	87·5	82·3	89·6	91·3	87·0
June ...	85·4	84·3	86·0	86·2	85·3	83·4	80·8	85·9	85·6	82·2
July ...	85·9	84·8	85·8	86·7	86·4	84·6	81·5	86·8	87·0	83·2
August ...	85·1	84·0	85·4	86·2	85·0	84·2	80·7	86·3	86·5	83·5
September ...	84·7	84·0	84·8	85·7	84·4	83·1	80·5	85·2	84·9 ?	82·1
October ...	84·1	82·4	84·4	85·3	84·2	81·2	76·2	83·7	86·2	78·7
November ...	76·9	72·9	77·2	79·7	77·8	73·2	65·4	78·7	79·6	69·2
December ...	70·8	64·5	71·9	75·4	71·5	68·7	61·3	71·8	75·9	65·9

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			63·4	67·6				66·9	70·8	
February ...			73·6	78·6				70·0	73·8	
March ...			81·1	83·9				76·8	80·5	
April ...			85·0	89·7		80·1	77·8	80·1	82·3	80·2
May ...	86·1	83·4	86·9	88·0	86·3	82·6	80·6	83·0	84·9	82·2
June ...	84·3	82·9	84·7	85·8	84·0	81·4	80·4	81·8	82·3	81·2
July ...	85·0	83·5	85·0	87·0	84·6	81·0	79·7	81·8	82·0	80·5
August ...	84·5	83·1	84·5	86·1	84·4	81·7	80·0	82·4	83·3	81·2
September ...	83·8	82·1	84·2	85·9	83·1	81·5	79·6	82·2	83·4	81·1
October ...	82·4	78·1	83·4	87·3	80·8	80·3	77·4	81·4	82·9	79·6
November ...	75·8	70·8	76·8	82·2	73·7	75·3	72·0	76·5	78·3	74·4
December ...	69·3	64·7	70·9	74·5	67·3	69·2	63·9	71·5	73·7	67·9

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	68·6	62·4	69·6	75·6	66·9	76·6	15·6	61·0	28—30	80·0	24·6	3rd	55·4
February...	72·6	66·8	73·7	79·8	70·2	80·4	15·2	65·2	21st	88·5	31·1	2nd	57·4
March ...	80·0	72·3	81·8	89·4	76·7	90·0	18·9	71·1	29th	96·7	34·0	8th	62·7
April ...	83·5	77·4	86·5	90·5	79·7	92·2	16·4	75·8	30th	98·5	31·0	5th 6th	67·5
May ...	84·6	78·9	87·5	91·0	81·3	93·0	15·5	77·5	6th	98·0	26·6	11th	71·4
June ...	83·8	81·4	84·8	86·5	82·6	87·9	8·1	79·8	4th	96·2	19·2	13th	77·0
July ...	84·4	81·3	85·5	87·4	83·5	88·7	7·8	80·9	3rd	93·4	17·4	10th	76·0
August ...	83·5	80·8	84·2	86·4	82·8	87·6	7·7	79·9	5th	92·4	16·9	11th	75·5
September	83·2	80·5	84·8	86·1	81·7	88·0	8·4	79·6	3rd	91·8	14·4	29th	77·4
October ...	82·4	77·8	84·7	87·0	80·3	88·1	10·8	77·3	14th	92·1	21·3	29th	70·8
November	75·2	69·5	77·0	81·4	73·2	82·8	14·3	68·5	11th	87·1	23·1	23rd	64·0
December...	69·0	62·9	70·8	75·7	66·6	77·1	15·5	61·6	13th	81·0	25·0	24th	56·0

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range	Lowest Min.	
									Day.	°		Day.	°
January ...	64·4*		67·5	76·5		...	...	52·4	...	...	...	10th	46·5
February...	67·9*		72·3	79·8		80·7	24·6	56·1	22nd	87·0	38·1	6th	48·9
March ...	77· *		82·1	89·0		89·9	24·9	65·0	29th	99·0	44·1	12th	54·9
April ...	76·6*		81·3	85·1		89·3	21·1	68·2	30th	100·0	48·8	6th	51·2
May ...	80·3*		87·6	86·8		92·9	19·1	73·8	6th	100·5	33·1	9th	67·4
June ...	81·7*		85·3	85·9		88·3	10·7	77·6	25th	96·8	25·3	13th	71·5
July ...	82·5*		87·0	86·7		89·4	11·0	78·4	4th	94·8	19·9	9th	74·9
August ...	82·1*		86·3	86·3		89·1	11·1	78·0	23rd	93·5	19·6	24th	73·9
September	81·1*		86·4	84·3		89·3	11·4	77·9	10th	93·9	18·4	26th	75·5
October ...	78·2*		86·8	86·0		89·2	18·8	70·4	6th	93·0	31·0	30th	62·0
November	72· *		79·9	83·4		84·9	24·3	60·6	3rd	88·8	35·9	30th	52·9
December...	63·8*		74·0	77·7		79·4	29·5	49·9	17th	81·9	39·0	31st	42·9

	DACCA.					DARJEELING.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	.....	.....	.....	.....	.....	42·1	38·1	42·8	47·2	40·3
February ...	71·1	70·0	71·1	72·6	71·0	41·6	37·9	42·1	45·8	40·8
March ...	78·4	76·0	78·4	81·2	78·0	50·4	45·2	51·7	56·2	48·8
April ...	80·6	78·7	81·0	82·9	80·0	55·0	51·0	57·1	57·6	54·5
May ...	82·4	80·2	83·1	84·9	81·7	58·9	53·9	61·5	63·5	56·8
June ...	82·8	81·6	83·3	83·9	82·5	64·1	60·5	65·9	67·6	62·5
July ...	83·0	82·0	82·9	84·2	83·0	63·9	61·0	64·5	67·1	63·0
August ...	83·8	82·7	84·0	85·0	83·7	65·1	61·9	66·2	68·6	64·0
September ...	83·2	81·9	84·0	84·3	82·7	62·8	59·1	64·6	66·6	61·2
October ...	81·4	79·4	82·2	82·7	80·5	58·0	53·5	60·2	63·2	55·4
November ...	76·3	74·3	77·2	78·0	75·9	51·2	46·1	54·7	55·3	48·7
December ...	69·8	68·5	70·0	71·3	69·4	43·7	39·8	44·8	48·3	42·1

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range	Lowest Min.	
									Day.	°		Day.	°
January ...	60· *		62·1	70·0		72·1	22·1	50·0	27th	76·0	33·0	2nd	43·0
February...	60·6*		65·3	68·1		71·4	18·3	53·1	23rd	84·0	40·0	1st	44·0
March ...	72·3*		76·1	82·7		86·2	24·3	61·9	30th	94·0	39·0	1st	55·0
April ...	81·2*		83·5	92·0		94·9	24·4	70·5	29th	103·0	40·0	6th	63·0
May ...	81·4*		84·6	90·8		97·2	25·1	72·1	9th	104·0	47·0	20th	57·0
June ...	79·1*		81·4	84·4		88·0	14 2	73·8	26th	97·0	30·0	1st	67·0
July ...	83·1*		82·5	84·8		90·1	8·8	81·3	8th	98·0	27·0	18th	71·0
August ...	78·7	74.8	80·3	82·2	77·7	87·0	13·7	73·3	10th	91·0	20·0	31st	71·0
September	77·8	74·2	79·9	80·9	76·5	86·6	14·0	72·6	10th	92·0	24·0	7th	68·0
October ...	75·1	66·4	80·0	82·2	71·8	85·0	18·1	66·9	23rd	88·0	28·0	31st	60·0
November	68·3	60·8	72·8	75·8	64·0	78·1	19·3	58·8	4th	83 0	28·0	29th	55·0
December	61·9	52·9	67·0	70·3	57·7	73·2	23·0	50·2	27th	79·0	36·0	31st	43·0

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	63·8*		63·5	73·4		75·4	21·1	54·3	29th	80·0	31·0	10th	49·0
February ..	67·4*		68 6	77·7		79.7	22·5	57·2	21st	88·0	38·0	2nd	50·0
March ...	75·8*		78·6	87·0		90·1	25·4	64·7	29th	100·0	47·0	8th	53·0
April ...	...		...	...		93·8	18·2	75·6	30th	105·0	43·0	6th	62·0
May ...	84·1*		85·0	89·9		94·2	15·8	78·4	6th	105·0	36·0	14th	69·0
June ...	84·3*		84·6	87·7		91·1	10·2	80·9	25th	98·0	20·0	19th	78·0
July ...	84·5*		85·0	87·4		91·6	10·0	81·6	5th	97·0	22·0	10th	75·0
August ...	83·8*		84·5	86·4		89·6	8·4	81·2	24th	94·0	16·0	12th	78·0
September	82·8*		84·2	85·2		89·2	8·7	80·5	22nd	94·0	17·0	24th	77·0
October ...	81·4*		82·2	86·5		87·8	11·4	76.4	14th	91·0	21·0	31st	70·0
November .	73·1	67·4	72·7	81·9	70·6	82·4	15·8	66·6	3rd	86·5	25·5	21st	61.0
December ..	65·6	57·1	67·1	75·4	62·9	75·7	18·2	57·5?	12th	79·0	27·5	31st	51·5

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	58·3*		64·4	70·7		74·6	28·7	45.9	19th	85·0	47·0	9th	38·0
February...	61·5*		68·1	74·1		76·9	28·0	48·9	6th	85·3	42·5	27th	42·8
March ...	76·9*		87·6	91·0		93·5	30·7	62·8	31st	95·3	50·5	8th	44·8
April ...	77·8*		87·4	95·6		96·6	36.5	60·1	19th	104·3	49·5	5th	54·8
May ...	80·5*		90·3	95·7		98·3	33·0	65·3	2nd	108·3	51·5	10th	56·8
June ...	83·7*		89·4	93·8		96·5	22·8	73·7	4th	105·3	34·5	29th	70·8
July ...	84·9*		89·8	94·0		95·7	19·8	75·9	10th	108·3	37·5	12th	70·8
August ...	82·6*		86·6	89·1		89·6	13·5	76·1	11th	95·3	26·5	19th	68·8
September	82·0*		87·1	88·5		89·9	14·3	75·6	7th	95·3	22·5	13th	72·8
October ...	78·4*		85 5	90·2		90·6	23·9	66·7	7th	94·3	38·5	28th	55·8
November	67·9*		77·7	82·7		84·0	30·8	53·2	5th	89 3	46·4	29th	42·9
December	61·3	49·3	68·3	72·8	55·1	77·0	32·3	44·5	1st	87·3	49·4	23rd	37·9

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	60·6		61·6	69·6		71·9	20·2	51·7	14th	77·0	33·0	3rd	44·0
February...	64·9		66·5	73·7		74·8	18·6	56·2	22nd	81·0	31·0	2nd	50·0
March ...	74·9		79·0	86·5		86·9	23·5	63·4	27th	98·0	46·0	8th	52·0
April ...	82·5		86·6	94·3		96·0	25·3	70·7	20th	103·0	40·0	6th	63·0
May ...	84·2		89·5	95·4		98·0	24·9	73·1	6th	106·0	41·0	20th	65·0
June ...	85·7		88·8	92·7		96·3	17·6	78·7	5th	106·0	31·0	16th	75·0
July ...	84·6		88·0	90·9		94·5	16·2	78·3	9th	105·0	30·0	13th	75·0
August ...	82·9		85·7	87·7		90·8	12·7	78·1	26th	96·0	21·0	2nd	75·0
September	83·8		86·2	90·7		91·0	14·0	77·0	17th	97·0	23·0	8th	74·0
October ...	79·0		85·0	88·0		91·0	21·0	70·0	9th	96·0	33·0	28th	63·0
November	70·5		76·8	81·2		84·3	24·4	59·9	21st	90·0	39·0	19th	51·0
December	62·3		67·4	73·9	66·0	76·4	25·7	50·7	7th	79·0	34·0	26th	45·0

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	55·7	46·3	58·5	65·7	52·3								
February...	59·9	52·3	62·1	68·3	56·9								
March ...	67·8	57·0	72·7	78·4	63·1								
April ...	80·0	67·0	86·5	91·5	75·1								
May ...	87·4	73·8	93·1	99·6	83·3								
June ...	89·0	81·4	91·3	97·6	85·8								
July ...	86·2	78·8	88·6	93·9	83·7								
August ...	88·5	81·0	91·5	96·1	85·6	97·8	17·6	80·2	15th	103·1	27·3	5th	75·8
September	86·2	76·4	90·5	96·7	81·4	98·3	23·8	74·5	12th	102·1	31·3	28th	70·8
October ...	78·6	64·3	86·6	92·7	70·9	94·5	34·0	60·5	2d-3d	99·2	49·5	27th	49·7
November	61·1	51·7	75·1	81·7	60·0	85·2	37·8	47·4	12th	95·2	54·0	30th	41·2
December	58·3	46·6	62·5	70·6	53·8	74·0	33·5	40·5	5th	80·2	42·5	25th	37·7

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January ...			63·9	68·8	
February ...			No instrument.		
March ...			Ditto.		
April ...			Ditto.		
May ...			96·9	100·7	
June ...			93·4	96·9	
July ...			93·6	95·2	
August ...			91·0	93·9	
September ...			90·9	91·2	
October ...			90·2	92·1	
November ...			80·7	83·2	
December ...			70·3	75·0	

The temperatures of previous years for several of the stations have been published in the Journal of the Asiatic Society, in the Philosophical Transactions in Professor's Dove's valuable memoirs, and in the Messrs. Schlagintweit's voluminous work: but on due consideration I do not feel satisfied that a comparison of the present results with any of the above would lead to useful conclusions, and I content myself, therefore, with that of the Calcutta means for the past year with those of the 16 years beginning with 1853. The table, given on page 29, shows that, while the months of January, July, August, October, November and December were somewhat above the average temperature, the hot weather months and the first month of the rains were considerably below the mean. The differences are as follow:—

January	...	+0·7	July	...	+9·7
February	...	—0·7	August	...	+0·3
March	...	—1·0	September	...	—0·1
April	...	—1·4	October	...	+0·8
May	...	—1·7	November	...	+0·3
June	...	—1·3	December	...	+0·9
		Mean of year	—0·2		

Solar Radiation.

The readings of a blackened bulb thermometer in vacuo, freely exposed to the sun's rays, are given for seven stations only, five of which are in Bengal. The instruments used are self-registering thermometers on either Negretti's and Zambra's or Phillip's principle, and their readings are taken on all days (whether clear or overcast) at 18h. (6 P. M.). It is directed that they be exposed about one foot from the ground above a surface of closely growing grass. This direction, I am informed, has not been observed at Jessore, where a piece of blackened board has been placed below the thermometer; and it is possible that the excess observable in the Jessore means as compared with those of Berhampore, the station most comparable with it, may be due to this cause.

ERRATUM, PAGE 36.

Line 18 *from bottom of page.*

For July ... + 9·7, *read* July ... + 0·7.

Maximum, Minimum, and Mean Monthly Readings of the exposed Black-Bulb Thermometer in Vacuo.

	PORT BLAIR.					CALCUTTA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...						112·9	28th	120	13th	108·5
February ...						119·0	14th	126·6	6th	111·8
March ...						129·3	29th	139·0	30th	118·0
April ...						134·5	30th	139·0	25th	128·3
May ...						135·2	28th	139·0	14th	128·8
June ...	136·0	18th	160·0	23rd	112·0	134·0	1st	139·4	25th	129·0
July ...	142·5	1st	163·0	27th	95·0	129·9	21st	139·4	28th	104·4
August ...	151·0	29th	166·0	27th	118·0	130·6	22nd	138·0	18th	113·8
September ...	150·0	30th	167·0	23rd	122·0	131·3	10th	137·5	27th	122·0
October ...	153·2	11th	165·0	5th	119·0	127·3	21st	138·0	11th	120·0
November ...	149·7	15th	167·0	26th	97·0	121·4	16th	128·4	4th	112·0
December ...	149·0	7th	154·0	28th	136·0	117·5	16th	131·0	30th	109·5

	JESSORE.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...	131·6	24th	140·5	31st	110·0					
February ...	133 9	22nd	143·5	3rd	90·0					
March ...	144·4	25th	156·0	16th	120·0					
April ...	144·2	21st	155·0	5th	108·0					
May ...	150·7	19th	159·0	27th	140·5					
June ...	135·8	3rd	155·0	10th	83·5	133	2nd	155	7th	99
July ...	144·9	20th	157·0	2nd	115·5	140	15th	150	23rd	115
August ...	142·4	26th	156·9	14th	100·0	138	23rd	150	2nd	97
September ...	145·0	6th	157·9	26th	115·0	144	6th	153	25th	91
October ...	146·3	1st	154·5	29th	140·0	139	13th	146	2nd	108
November ...	140·2	2nd	149·2	30th	130·9	131·5	1st	140	30th	116
December ...	132·5	11th	138·0	30th	127·5	125	20th	129	10th	119

	HAZAREEBAUGH.					PATNA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...	130	27th	140	19th	102	112·9	24th	122·0	26th	81·0
February ...	132	22nd	145	24th	104	121·5	22nd	135·0	18th	100·0
March ...	137	26th	149	11th	121	130·4	31st	144·0	17th	89·0
April ...	146	21st	160	2nd	125	140·0	13th	162·0	2nd-3rd	138·0
May ...	150	8th	165	19-20	132	148·1	1st	162·0	22nd	90·0
June ...	141	6th	159	18th	95	136·3	24th	159·0	6th	100·0
July ...	147	8th	161	3rd	129	141·5	4th	162·0	25th	90·0
August ...	145	24th	163	13th	125	131·0	11th	149·0	29th	100·0
September ...	142	1st	155	13th	92	126·2	27th	152·0	22nd	93·0
October ...	143	3rd	159	27th	125	139·7	1st	152·0	31st	123·0
November ...	134	8th	143	16th	127	128·0	7th	135·0	30th	105·0
December ...	128	27th	137	30th	125	113·7	3rd	130·0	2nd	94·0

	MONGHYR.					ROORKEE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day,	°
January ...										
February ...										
March ...										
April ...										
May ...										
June ...										
July ...	148·3	9th	159·0	17th	137·0					
August ...	142·2	15th	154·0	18th	95·0	121·8	7th	135·0	12th	99·0
September ...	143·8	27th	152·0	30th	127·0	121·7	16th	132·0	1st	99·0
October ...	143·8	11th	150·0	31st	139·0					
November ...	136·3	3rd	147·0	30th	126·0	134·8	3rd	143·0	29th	122·0
December ...	126·2	14–15	129·0	30-31	122·0	123·9	16th	132·7	28th	112·7

Humidity.

The humidity of the air is calculated from the readings of the day and wet bulb thermometers, by the formulæ

$$F = f - \frac{0{,}480\,(t-t')}{1130-t}\,29{\cdot}7$$

$$\frac{F}{f} = \frac{x}{100}$$

in which t and t' are the temperatures of the dry and wet bulbs respectively, f the elastic force of water vapour at temperature t, F that at the temperature of the dew point, and x the proportional humidity, saturation being 100.

At the Calcutta Observatory it has been and still is the practice to calculate the humidity by Mr. Glaisher's factors, the results of which differ slightly from those obtained by the above formulæ; but the differences are unimportant in comparison with the probable errors inseparable from the method of determining humidity in the ordinary way from the indications of Mason's hygrometer. The table given below shews the results obtained by both methods from the same observations, for each month of the past year.

The calculation of the mean humidity of any single day from four equiperiodic observations is subject to errors similar to those which affect the application of the same method to the determination of its mean temperature, and to others in addition, since the local humidity of the atmosphere is subject to incessant oscillation independently of the hour of the day, and to a greater extent than its temperature. The effect of these variations tends, however, to disappear, when the mean humidity of a month is thus calculated; but the mean curve of humidity like that of temperature is of less regular form than the barometric curve, and there thus arises an appreciable difference between the means of four and twenty-four observations daily.

In the following table are given the monthly means of the past year for Calcutta, as deduced from the hourly observations, side by side with those deduced from the four six-hourly readings; the calculations in both cases having been made by the application of Glaisher's factors; also the means similarly deduced from the observations of the last sixteen years.

	Mean Monthly Humidities for 1868			Mean of 16 years' hourly observations: by Glaisher's Factors.
	From 4 Observations.		From Hourly Obs. by G. F.	
	By August's Formula.	By Glaisher's Factors.		
January	66	67	67	71
February	67	67	66	68
March	65	65	63	67
April	73	72	71	69
May	77	75	74	73
June	85	83	84	81
July	86	84	85	85
August	88	86	87	86
September...	88	86	86	85
October	76	74	74	78
November...	69	68	68	73
December...	66	68	67	72

The difference of the results in the first three columns is not very great, but would be sufficient to vitiate any critical comparison of the humidities of different years, calculated by different methods and from series of observations differing in periodicity. It will be observed that, excepting in the driest months, December, January, February, and March, August's formula gives a higher humidity than the Greenwich factors. In December and January, the latter gives the higher results.

Mean Monthly Humidities (Saturation=100) for the year 1868.

	PORT BLAIR.					MADRAS.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			74	67				65	67	
February			69	65				63	64	
March			71	69				55	60	
April ...			69	68				54	65	
May ...			80	81				56	66	
June ...			79	77				55	64	
July ...			84	82				60	60	
August ...			78	78				57	57	
September ...			81	82				58	63	
October ...			78	78				64	69	
November ...			76	76				64	64	
December ...			70	67				63	63	

	AKYAB.					FALSE POINT.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			82	67		83	88	81	80	85
February ...	78	82	79	71	81	83	89	79	78	85
March ...	78	82	78	70	83	79	83	76	75	81
April ...	79	85	76	74	82	84	87	83	82	85
May ...	78	85	75	72	81	83	85	82	82	83
June ...	88	91	87	86	90	80	81	80	81	81
July ...	91	94	89	88	92	76	77	76	75	76
August ...	90	94	87	88	93	79	80	78	78	79
September ...	89	94	86	87	91	73	73	73	72	74
October ...	88	93	85	84	91	71	70	72	72	72
November ...	86	90	83	84	89	64	63	64	66	65
December ...	85	89	80	82	91	79	82	79	78	78

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	74	87	73	54	82			73	62	
February ...	73	89	69	53	81			78	68	
March ...	65	84	59	42	74			77	72	
April ...	68	81	64	54	74			80	76	
May ...	71	80	66	61	77	81	85	79	76	84
June ...	82	86	79	79	86	87	91	86	84	89
July ...	81	86	77	77	85	87	90	88	83	89
August ...	81	88	76	77	85	90	93	90	86	91
September ...	81	82	78	79	87	90	92	90	87	91
October ...	74	84	68	58	85	83	91	82	74	86
November ...	64	78	55	49	76	75	80	76	62	81
December ...	68	79	63	50	79	77	86	80	61	83

	CHITTAGONG.					CALCUTTA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			80	77		66	79	62	49	76
February ...			81	76		67	83	62	47	78
March ...			76	74		65	86	60	40	74
April ...	83	84	83	80	85	73	85	68	56	83
May ...	83	86	83	79	84	77	90	73	61	84
June ...	90	91	89	89	92	85	91	83	80	88
July ...	90	92	88	90	92	86	94	83	79	88
August ...	94	95	92	93	95	88	95	86	81	91
September ...	90	93	88	88	92	88	94	85	80	92
October ...	84	87	83	82	85	76	90	69	61	84
November ...	80	85	76	77	84	69	83	64	53	76
December ...	70	77	66	65	73	66	80	62	47	77

	JESSORE.					DACCA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			69	53						
February ...			64	51		75	80	75	66	80
March ...			56	42		77	83	76	66	82
April ...			72	63		83	86	84	79	84
May ...			73	71		86	90	85	81	87
June ...			86	82		93	95	91	91	94
July ...			78	78		94	95	94	92	94
August ...			81	79		94	96	93	91	95
September ...			79	83		93	96	91	90	96
October ...			63	63		83	89	79	76	87
November ...			61	53		77	83	74	70	82
December ...			55	43		71	75	69	64	75

	HAZAREEBAUGH.					BERHAMPORE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			61	45				80	60	
February ...			58	47				71	51	
March ...			38	29				70	56	
April ...			37	23						
May ...			51	38				75	60	
June ...			74	69				85	78	
July ...			76	73				85	80	
August ...			83	80				86	82	
September ...	85	93	80	79	88			87	83	
October ...	60	67	52	50	53			72	57	
November ...	51	63	46	40	57	72	89	69	52	80
December ...	49	65	41	36	55	71	87	68	48	81

	MONGHYR.					PATNA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			70	54				73	62	
February ...			65	55				63	53	
March ...			53	46				31	30	
April ...			55	49				40	28	
May ...			50	39				48	41	
June ...			66	55				60	53	
July ...			70	66				50	57	
August ...			80	73				75	72	
September...			77	73				71	69	
October ...			54	43				51	35	
November ...			55	46				39	33	
December ...			59	46	59	57	76	46	40	67

	DARJEELING.					BENARES.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	79	83	81	69	84			70	57	
February ...	82	87	84	70	88					
March ...	71	78	68	64	74					
April ...	83	90	83	74	84					
May ...	81	89	79	74	82			36	29	
June ...	91	94	89	86	94			55	49	
July ...	94	95	96	90	96			59	58	
August ...	93	96	92	88	95			63	58	
September ...	89	90	87	87	91			66	63	
October ...	78	81	75	72	84			38	32	
November ...	75	80	67?	72	81			38	33	
December ...	75	76	72	70	84			44	34	

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January ...	70	87	65	52	75
February ...	71	87	67	50	82
March ...	53	73	45	32	63
April ...	43	65	33	24	49
May ...	39	57	30	24	44
June ...	56	69	52	42	63
July ...	78	83	64	52	73
August ...	69	85	60	57	74
September ...	64	82	58	44	74
October ...	46	67	36	27	54
November ...	50	72	41	29	58
December ...	60	77	56	42	67

The table given at page 40 would seem to show that the humidity of Calcutta, in the months April to August of the past year, was somewhat above the mean of the 16 years during which hourly observations have been recorded; but that this excess was more than compensated by the dryness of the remaining months, so that, on the whole, the humidity of the year was slightly less than the average in the proportion of 74·3 to 76. This result is, at first sight, somewhat striking, for, as will be shewn by the rain-fall tables, the rain-fall of the past year was heavier than that of any year on record; but a further examination of the observatory registers of past years will show (if, indeed, they can be accepted as trustworthy) that this apparent anomaly of low mean humidity, coinciding with heavy rain-fall, is by no means exceptional. On comparing, for instance, the three periods 1853-58, 1859-63, and 1864-68, it would appear that the mean humidities, and mean rain-falls bear a certain inverse relation to each other, thus :—

	Mean annual rain-fall.	Mean annual humidity.
1853-58	63·64	77·9
1859-63	69·00	76·1
1864-68	75·95	73·6

and, therefore, that notwithstanding the excessive rain-fall of late years, either owing to better drainage or some other cause, the mean humidity of the atmosphere is considerably decreased. That this *may be* the real explanation I am not prepared to deny, for there is no immediate and necessary connection between

the total annual rain-fall of a place and its mean humidity ; and it may be conceded that, owing to local changes, the atmospheric humidity of a given place may be lessened, although, from independent causes, its rain-fall may increase. Before, however, any discussion can profitably be entered on, the preliminary question has to be considered—" Can the data be accepted as thoroughly trustworthy ?" And seeing how readily the indications of the wet bulb thermometer (the only instrument used) are affected by neglect or alteration of the arrangement for moistening the bulbs, or by variation in the position of the instrument; and how easily, therefore, the humidity of the air, as calculated therefrom, may be represented in excess of the truth, it is important that this question be satisfactorily answered. For my own part I am not prepared to answer it, nor can it be answered by any one who has not been intimately conversant with the observatory practice from the beginning. Unfortunately but one series of observations, as far as I am aware, is extant; and if this be so, the whole question of the increasing dryness of Calcutta (one of great interest in a sanitary point of view) must rest on the credibility to be attached to the results of that series.*

Rain-fall.

A summary of rain-fall returns is given for all stations from which returns of this kind have been received. If there appears no good reason to regard them as very erroneous, it may be doubted whether any can pretend to accuracy, for all the guages that I have had an opportunity of testing have shown some error; but rain-fall is an element in which merely approximate results have a considerable practical value, and they are given, therefore, with this necessary caution.

To the second table I have prefixed the heading "The number of days on which rain was measured." This will not mislead, since it states the practical fact, while it may fairly be inferred that the fact for which it stands as a substitute, *viz.*, the number of days on which rain of measurable amount fell, bore a very close relation to it. Until within the last few months of the year, each observer took the reading of his rain-guage at the hour most convenient to him, (excepting at the regular Meteorological Stations,) but in August, directions were issued that the reading should thenceforth be recorded at 6 P. M. daily, so that the entry for any day should represent the rain-fall for that day, and 6 hours of the previous day. The Calcutta return of the number of days on which rain fell, as here given, will be found to differ considerably from that published by the

* It was pointed out by the Meteorological Committee, in a Report dated 18th December, 1867, that the site of the present Meteorological Observatory is objectionable on many grounds. It is peculiarly so with reference to the humidity observations. The thermometer shed, in which the hygrometer is exposed, is in an enclosure of very moderate size, surrounded by lofty buildings, and stands on the edge of a tank which occupies a large part of the enclosure. Differences in the height at which the water stands in this tank must greatly affect the moisture of the atmosphere of the place. From this reason alone and supposing there be no other, I think considerable doubt must attach to the value of the humidity observations. No orders have yet been passed on this part of the Report.

Superintendent of the Meteorological Observatory. The difference is apparently due to my having observed the usual practice of recording as days of rain-fall those only on which there is a sufficient fall to be measurable, while the Observatory records as days of rain, those also on which there are but a few drops not measurable in amount.

In the following tables, as in those given in my report for last year, the stations are classified in circuits according to Geographical position as follows:—

1. **Central Circuit.**—This comprises the main portion of the Gangetic Delta, as bounded by the Bhugirutti and Hooghly, the Pudma or Ganges, and the lower Megna.

2. **South-Western Circuit.**—Comprising Orissa and the Tributary Mehals of Cuttack.

3. **Western Circuit,** which includes Chota Nagpore and all the elevated country to the westward of the Delta as far north as Rajmehal and the borders of the Ganges valley.

4. **North-Western Circuit.**—Consisting of the Gangetic plain west of the Cosi River, to the borders of Oudh and the N. W. Provinces.

5. **Northern Circuit.**—The plain north of the Ganges between the Cosi River and Assam and the Jamoona River; with the Hill station Darjeeling.

6. **North-Eastern Circuit.**—Which consists of Assam, and extends southward to the water-shed of the Garrow, Khasi, Jynteah, and Naga Hills.

7. **Eastern Circuit.**—Formed by the drainage basin of the Barak and its tributaries, the low country east of the Jamoonah, with Tipperah and Chittagong.

8. **South-Eastern Circuit.**—Represented at present by the single station of Akyab, on the Arrakan Coast.

Rain-fall in inches in 1868.

Circuit.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Central.	Saugor Island ...	?	?	?	?	?	27·40	11·86	16·07	21·50	4·12	Nil	Nil	?
	Contai ...	Nil	0·65	Nil	3·35	3·78	34·43	8·76	12·69	17·74	?	?	?	81·40?
	Calcutta ...	0·05	0·18	0·16	5·47	5·80	26·61	11·17	24·83	15·69	1·53	Nil	Nil	91·49
	Howrah ...	?	?	?	?	?	23·20	14·80	25·30	21·10	0·60	Nil	Nil	?
	Hooghly ...	?	?	?	?	?	15·80	9·55	40·50	21·40	2·00	Nil	Nil	?
	Kishnagur ...	?	?	?	?	?	10·75	11·50	30·20	7·30	3·70	Nil	Nil	?
	Jessore ...	0·02	1·56	1·22	10·27	9·85	16·62	12·24	20·53	9·49	2·22	Nil	Nil	84·02
	Berhampore ...	Nil	1·38	0·78	1·98	8·12	12·71	8·40	18·07	9·36	1·07	Nil	Nil	61·87
	Fureedpore ...	?	?	?	?	?	8·90	5·40	16·10	10·60	?	?	?	?
	Burrisal ...	?	?	?	?	?	10·10	16·00	22·60	14·10	1·70	?	?	?
Western.	Burdwan ...	?	?	?	?	?	8·20	10·80	29·60	14·50	1·00	Nil	Nil	?
	Raneegunge ...	?	?	?	?	?	20·89	6·98	12·97	13·05	1·05	Nil	Nil	?
	Sooree ...	0·10	0·60	Nil	0·26	2·54	8·85	8·85	10·45	9·20	0·40	?	Nil	41·25?
	Hazareebaugh ...	0·26	0·85	0·64	Nil	1·54	14·92	9·66	11·80	9·11	0·53	Nil	Nil	49·31
	Midnapore ...	Nil	0·80	0·10	5·60	3·40	22·80	5·40	19·90	13·20	1·30	Nil	Nil	72·50
	Bancoorah ...	0·50	0·80	Nil	3·00	2·75	15·25	6·55	15·30	17·10	1·00	Nil	Nil	62·25
	Madras ...	4·75	0·03	Nil	0·40	Nil	7·19	8·67	6·47	6·58	6·40	6·47	0·52	47·48

S. Western.	Cuttack	...	0·10	0·05	0·10	1·40	3·23	17·13	10·12	8·92	9·80	1·96	Nil	Nil	52 81
	False Point	...	Nil	1·35	0·40	5·00	1·80	9·20	12·75	9 95	20·40	4·00	0·35	Nil	65·20
	Pooree	...	0·05	3·60	0·07	1·70	5·40	11·00	10·90	12·90	5·05	0·30	Nil	Nil	50 97
	Balasore	...	?	?	?	?	?	36·20	5·60	14·30	9·60	0·40	Nil	Nil	?
	Sumbulpore	...	?	?	?	?	?	23·09	4·39	4·32	3·08	Nil	Nil	Nil	?
N. Western.	Roorkee	...	1·89	4·41	1·13	0·30	1·26	4·24	11·49	1·47	1·09	Nil	Nil	0·11	27·39
	Benares	...	0·10	Nil	0·35	0·60	0·75	10·10	9·75	4·25	6 05	Nil	Nil	Nil	31·95
	Chuprah	...	0·36	0·80	0·60	0·32	2·62	5·45	3·20	7·91	4·45	Nil	Nil	Nil	25·71
	Patna	...	0·88	2·03	0·30	0·70	2·00	5·06	5·73	5·86	3·42	0·04	Nil	Nil	26·02
	Monghyr	...	0·30	1·65	0·58	Nil	1·93	3·13	8·67	12·75	3 31	0·02	Nil	0·40	32·74
	Arrah	...	?	?	?	?	?	5·10	3·10	7·88	6·20	0·40	?	?	?
	Buxar	...	?	?	?	?	?	3·55	9·15	7·15	5·30	Nil	Nil	?	?
Northern.	Darjeeling	...	0·45	1·35	1·17	3·26	4·67	34·75	31·39	43·35	14·35	0·42	Nil	0·18	135·34
	Maldah	...	0·05	Nil	0·05	2·00	3·50	7·20	6·65	15·21	8·55	0·10	Nil	Nil	43·31
	Rampore Beauleah	...	0·02	3·40	3·00	3·10	9·25	14·45	13·20	10·75	11·20	3·15	Nil	Nil	71·52
	Pubna	...	?	?	?	?	?	11·34	10·35	17·18	17·20	0·88	Nil	Nil	?
	Bograh	...	?	?	?	?	?	15·50	11·90	3·80	?	?	?	?	?
	Rungpore	...	?	?	?	?	?	15·50	15·70	14·90	28·60	0·50	Nil	Nil	?
	Dinagepore	...	?	?	?	?	?	18·93	11·20	12·10	13·30	0·10	?	?	?
	Mynagoree	...	?	?	?	?	?	?	?	23·75	30·43	2·10	Nil	Nil	?
N. Eastern	Shillong	...	Nil	1·80	1·90	2·20	9·00	13·40	14·00	7·50	17·30	3 90	0·05	0·35	71·40
	Gowalparah	...	?	0·72	0·76	8·41	4·67	20·91	19·22	16·92	14·34	1·05	Nil	Nil	87·00?

Rain-fall in inches in 1868.—(Continued.)

Circuit.	Stations.	January.	February	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
N. Eastern.	Mymensingh ...	?	?	?	?	?	25·55	16·75	20·70	9·90	1·10	Nil	Nil	?
	Gowhatty ...	?	?	?	?	?	4·70	11 00	7·70	9·40	0·40	Nil	0·60	?
	Dholebagan ...	Nil	5·95?	2·36	17·34	3·41	19 26	16·02	9·76	12·14	2·11	0 10	0·52	88·97
	Nowgong ...	?	?	?	?	?	11·00	19·50	17·60	19·70	4·00	?	?	?
	Tezpore ...	?	?	?	?	?	6 82	10·43	16·48	6·94	0·77	0·53	0·63	?
	Seebsaugor ...	?	?	?	?	?	7·90	22·30	20·60	13·00	1·70	0·80	0·50	?
	Dibrocghur ...	?	?	?	?	?	33·36	32·50	30·00	27·80	2·90	1 00	1·10	?
	Samogoodting ...	?	?	?	?	?	?	0 52	5·30	?	?	?	?	?
Eastern..	Chittagong ...	Nil	6·21	2·40	19·96	11·26	49·63	15·62	29·19	18·01	0 46	1·31	Nil	154·05
	Noakhally ...	?	?	?	?	?	30·87	11·15	12 08	7·86	1·24	1·17	Nil	?
	Dacca ...	Nil	4·90	0 70	9·60	5·70	15·10	8·00	17·17	14·56	0 94	0·11	Nil	76·78
	Cherrapoonjee ...	?	?	?	?	?	134·95	170·28	82·74	85·74	1·36	?	?	?
	Sylhet ...	?	?	?	?	?	35·25	27·05	25·68	16·19	5·05	Nil	Nil	?
	Cachar ...	Nil	9·60	2·00	17·25	6·85	18·80	16·70	15·30	16·05	9·45	Nil	Nil	112·00
	Tipperah ...	?	?	?	?	?	26·38	7·96	13·16	15·32	1·87	2·40	Nil	?
	Chundergona ...	?	?	?	?	?	?	6·60	5·75	9·86	0·16	1·20	Nil	?
S. Eastern.	Akyab ...	Nil	Nil	0·22	1·94	3·10	61·95	44·14	36·19	21·65	12·17	8·23	Nil	189·59
	Port Blair ...	Nil	Nil	0·13	1·02	16·99	11·87	17·62	11·39	22·11	12·27	9.11	1·04	103·56

Number of days on which Rain was measured in 1868.

Circuit.	Stations.	Jan.	Feb.	March,	April.	May.	June,	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Central.	Saugor Island ...	?	?	?	?	?	16	16	11	20	3			?
	Contai ...		2		6	5	13	16	17	16	?	?	?	?
	Calcutta ...	1	1	1	6	10	21	19	20	22	2			103
	Howrah ...	?	?	?	?	?	8	11	19	17	1			?
	Hooghly ...	?	?	?	?	?	8	12	19	13	2			?
	Kishnagur ...	?	?	?	?	?	8	15	20	9	2			?
	Jessore ...	1	3	3	19	15	20	21	22	21	4			129
	Berhampore ...		4	1	6	9	14	18	15	19	2			88
	Furreedpore ...	?	?	?	?	?	15	13	12	14	?	?	?	?
	Burrisal ...	?	?	?	?	?	10?	23	25	17	3?	?	?	?
Western.	Burdwan ...	?	?	?	?	?	?	10	20	18	1			?
	Raneegunge ...	?	?	?	?	?	15	11	18	19	1			?
	Sooree ...	1	2		3	6	12	12	13	17	1			?
	Hazareebaugh ...	1	3	3		6	14	19	19	6	2			73
	Midnapore ...		2	1	4	7	15	10	18	16	2			75
	Bancoorah ...	2	3		3	7	15	13	16	17	2			78
	Madras ...	2	1		1		9	12	14	9	9	9	.1	67

Number of days on which Rain was measured in 1868.—(Continued.)

Circuit.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
S.-Western.	Cuttack ...	1	1	1	3	7	18	15	14	20	2			82
	False Point ...		2	1	4	6	10	15	2	17	5	2		64
	Pooree ...	1	3	2	1	6	16	14	14	12	1			70
	Balasore ...	?	?	?	?	?	18	9	18	17	2		?	?
	Sumbulpore ...	?	?	?	?	?	15	13	10	10				?
N.-Western.	Roorkee ...	4	9	4	3	4	7	8	4	1			1	45
	Benares ...	1		2	1	2	7	12	8	10				43
	Chuprah ...	3	4	2	1	3	6	5	8	8				40
	Patna ...	6	6	2	1	5	9	9	11	13	1			63
	Monghyr ...	1	4	3		5	9	12	14	10	1		2	61
	Arrah ...	?	?	?	?	?	6	5	12	13	1	?	?	?
	Buxar ...	?	?	?	?	?	8	12	11	13			?	?
Northern.	Darjeeling ...	2	9	5	13	15	26	28	23	18	3		1	143
	Maldah ...	1		1	5	5	14	15	10	11	1			63
	Rampore Beauleah ...	1	3	2	5	9	17	17	17	13	3			87
	Pubna ...	?	?	?	?	?	19	19	14	19	2			?
	Bograh ...	?	?	?	?	?	19	13	4?	?	?	?	?	?
	Rungpore ...	?	?	?	?	?	13	16	13	13	3			?
	Dinagepore ...	?	?	?	?	?	15	13	12	11	1	?	?	?
	Mynagooree ...	?	?	?	?	?	?	?	7	15	2			?

North-Eastern.	Shillong	...		7	2	5	12	20	12	13	26	8	1	3	109
	Gowalparah	...	?	6	4	15	18	25	26	22	16	2			?
	Mymensingh	...	?	?	?	?	?	21	19	18	17	3?			?
	Gowhatty	...	?	?	?	?	?	15	20	14	12	1		1?	?
	Dholebagaun	...		?	5	26	11	24	28	25	23	10	2	2	?
	Nowgong	...	?	?	?	?	?	8?	14	17	10	5?	?	?	?
	Tezpore	...	?	?	?	?	?	8?	22	26	14	5	2	3	?
	Seebsaugor	...	?	?	?	?	?	?	22	22	16	3	2	2	?
	Dibrooghur	...	?	?	?	?	?	18	25	19	7	3	1	4	?
	Samogoodting	...	?	?	?	?	?		3?	12?	?	?	?	?	?
Eastern.	Chittagong	...		4	3	7	7	19	21	21	16	3	5		106
	Noakhally	...	?	?	?	?	?	18	18	15	12?	2	2		?
	Dacca	...		3	2	11	7	18	13	17	18	4	1		94
	Cherrapoonjee	...	?	?	?	?	?	23	30	28	18	5	?	?	?
	Sylhet	...	?	?	?	?	?	24	27	26	18	4			?
	Cachar	...		5	6	21	10	22	28	21	19	8			140
	Tipperah	...	?	?	?	?	?	19?	19	21	19	6	1		?
	Chundergona	...	?	?	?	?	?	?	13	25	17	5	6		?
P. S. Eastn.	Akyab	...			1	6	7	23	28	24	24	11	7		131
	Port Blair	...			2	2	20	21	27	20	28	19	18	2	159

The rainy season of 1868 was characterised by a fall of rain in Lower Bengal much above the average; in Calcutta, indeed, the quantity registered is the highest on record; while in the North-West Provinces and a portion of Behar, there was a deficiency of the usual rain-fall. The following table will serve to illustrate this fact by presenting a comparative view of the rain-fall of 1868, and the mean rain-fall of several years at seven selected stations :—

Station.	Rain-fall, 1868.	Difference.	Mean Rain-fall.	Mean deduced from	
				Years.	Periods.
	ins.	ins.	ins.		
Madras	47·48	− 1·42	48·90	32	
Calcutta	91·49	+ 24·53	66.96	32	1837-68
Dacca	76·76	+ 5·64	71·14	10	8 years [Dove] 1851, 1868.
Berhampore	61·87	+ 10·06	51·81	9	1851, 57-59, 64-68.
Darjeeling	135·34	+ 9·71	125·63	5	1851, 57, 59 1868.
Benares	31·95	− 4·28	36·23	8	63-1851, 58-59, 65, 67-68.
Roorkee	27·39	− 8·10	35·49	7	1860, 63-68.

The periods for which the averages are taken are too short to admit of anything like exact results, except, perhaps, in the cases of Calcutta and Madras, but they are sufficient to afford evidence of the fact noticed above.

It may be observed that in Lower Bengal nearly the whole of the excessive fall occurred in the months of June and August. In July the quantity was somewhat below the average, and the six months January to March and October to December were unusually dry. These variations coincide with the variations in the humidity of the atmosphere, as shewn at page 40, and afford a partial explanation of the apparently anomalous coincidence of high total rain-fall and low mean humidity. Of course they throw no light on the question of a supposed secular decrease of humidity in Calcutta.

The following table shews the rain-fall of Calcutta, month by month, for the last 16 years, as registered at the Surveyor General's Office, and exhibits the fact already noticed at page 45, that during the later years of the above period, there would appear to have been a greatly increased rain-fall as compared with the earlier years; and on carrying the comparison still further back, *viz.*, for 32 years, it would at first sight appear that with certain oscillations of many

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In right hand column of table, line beginning "Darjeeling," *for* 1851, 57,59 *read* 1851, 57-59.
In same column, next following line, for 63, 1851, 58-59, 65, 67-68, *read* 1851, 58-59, 63-65 67-68.

years duration, there has really been a tendency to increasing rain-fall; for the mean of the first 5 years of the period 1837-41 amounted to only 56·25 inches. If we admit the accuracy of the data it would seem that during these 5 years the rain-fall was exceptionally light (every year being below the 32 year' mean), and on the other hand that the rain-fall of the years 1861, 1864, and 1868, was greatly in excess of the same mean, or indeed of the fall of any previous year of the period. But, in spite of this, the variations are not of sufficient regularity to indicate the detailed operation of any definite law, even were the trustworthiness of the data for the earlier years beyond question, a point on which I am unable to give any assurance.

Table of Monthly and Annual Rain-fall at Calcutta for the 16 years, 1853-68.

Month.	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	Mean of 16 years.
January	0·10	—	0·46	1·06	—	0·07	—	—	0·56	1·03	—	—	0·48	1·91	0·55	0·05	0 41
February	—	1·01	1·11	—	—	0·54	0·66	0·09	—	—	1·20	0·47	1·86	3·74	0·82	0·18	0·76
March	—	1·28	0·14	2·23	0·96	0·22	4·23	—	0·88	1·69	—	1·84	1·96	—	1·51	0·16	1·13
April	1·00	7·25	3·83	0·62	1·80	0·97	1·29	2·47	0·31	2·53	2·43	1·11	4·28	1·81	0·27	5·47	2·13
May	2·42	3·75	5·97	8·18	9·33	3·28	3·18	2·21	9·07	3·80	4·20	10 36	15·94	2·56	2·45	5·80	5·78
June	8·27	16·82	5·84	12·67	10·30	8·22	12·48	6·46	26·44	13·63	12·93	18·73	8·63	7·02	7·21	26·61	12·64
July	12·76	10·60	19·18	10·94	12·98	17·96	9·09	17·92	10·93	13·31	11·22	13·09	12·19	13·42	15·40	11 17	13·19
August	13·44	11·59	11·07	10·30	18·70	14·65	21·22	14·65	16·12	12·03	14·10	16 64	5·99	11·48	18·50	24·83	14·70
September	9·15	9·26	19·39	9·02	13·30	4·74	11·55	7·13	12·48	10·86	10 33	12·59	—	15·97	13·70	15·69	10·94
October	4·94	4·01	3·38	9·21	1·60	8·03	4·96	1·68	7·75	14·40	3·48	6·50	—	7·83	8·12	1·53	5·46
November	—	0·90	—	—	—	—	—	—	4·30	—	1·26	2·89	—	—	8·19	—	1·09
December	—	—	—	—	—	1·08	—	—	0·26	0·20	—	—	—	—	—	—	0·10
Total ..	52·08	66·47	70·37	64·23	68·97	59·76	68·66	52·61	89·10	73·48	61·15	84·22	61·58	65·74	76·72	91·49	68·33

WIND DIRECTIONS.

In the absence of a self-registering anemometer, any register of wind direction in which the observations are not recorded at short intervals, can furnish an approximative view only of the actual movements of the lower atmosphere. The arrangements for anemometrical registration at most of the reporting stations are, at present, less complete than those for recording the other principal meteorological elements, and greater practical difficulties are met with in the attempt to render the records of different stations comparable *inter se;* at Saugor Island and Calcutta, vanes have been erected with indicating dials inside the buildings on which they are fixed, so that the wind direction may be read at night with the same facility and accuracy as in the day time. At other stations, the vanes are of the common kind. Four observations are or should be recorded daily at every station, but this rule was not in operation at most of the stations during the earlier part of the past year; and thus it results that, for some months and at certain stations, the tables contain the summary of two daily observations only, in the case of one station of three observations, and for other months and stations, that of four daily observations. These variations are noted in the following pages, at the head of the table for each station.

It may be observed that, in several cases in which night observations have been recorded, the total number of observations in the month shews a deficit of three or four. This is generally due to the observer not having been able to see the vane distinctly at night time, when the night has been very dark, or the vane obscured by rain.

PORT BLAIR.

Two Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
N. ...	1	1			5		1		1	1	4	10	
N. E. ...	45	34	32	23	6				2	21	21	46	
E. ...	8	7	11	9	3	1		1		4	4	2	
S. E. ...	2	5	10	15	10	2		1		5	13	1	
S. ...	2		4	1	11	9	4	5	4	3	3		
S. W. ...			2	10	18	48	52	48	38	20	10		
W. ...				1	1		2	5	10	5	1		
N. W. ...	4	11	3	1	8		3	2	5	3	4	3	

MADRAS.

Two Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North		1								2	7	3
N. by E.	1											
N. N. E.	5									3	4	9
N. E. by N	8								1	1	1	2
N. E.	20	6	2							8	8	6
N. E. by E.	7	1					1			4	1	
E. N. E.	14	6	2					1	3	6	5	5
E. by N.	3		2			4	4		1	1		1
East	2	8	3			1	1	6	4	2	1	1
E. by S.		4	3			2	3			3	1	1
E. S. E.		7	10	6	3	2	1	2		3	1	3
S. E by E.		3	5		6	2			1			4
S. E.		9	15	17	23	6	2	2	8	3	1	
S. E. by S.		2	4	6	6	2	3			1	3	
S. S. E.		1	2	12	6	5			3			
S. by E.			1	2	3						1	
South		3	3	5	6	1	1		2	2		
S. by W.			2	1		1				1		
S. S. W.		2	5	2	2	2	2	3	2	4		
S. W. by S.		1	1	3			1	1				
S. W.		5	2	1	3	6	3	7	1	1	3	4
S. W. by W. ...				1		2	5	3	3	1	3	14
W. S. W.				1	1	3	9	6	10	1	2	
W. by S.					1		5	4	4			
West				1		9	6	14	12	1		
W. by N.						2	5	5	4			
W. N. W.						4	5	4	1		1	
N. W. by W. ...				1	2	2	3	2			1	
N. W.							1			3		
N. W. by N. ...						1	1				1	
N. N. W.	2					3				6	9	1
N. by W.								2		4	6	8
Variable												
Calm												

AKYAB.

January, two Observations daily.; other months, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1	15	20	10	11	2			1	6	6	4
N. by E. ...												
N. N. E. ...										1		3
N. E. by N. ...												
N. E. ...	25	26	25	13	20	9	6	8	8	29	28	39
N. E. by E. ...		2										
E. N. E. ...	1											
E. by N. ...												
East ...	4	7	8	15	15	18	24	32	28	19	6	12
E. by S. ...												
E. S. E. ...						3	11	1	15	1		
S. E. by E. ...												
S. E. ...		2	4	8	8	10	13	5	8	1	21	16
S. E. by S. ...												
S. S. E. ...				2		10	4	1			1	
S. by E. ...												
South ...		2		7	5	8	15	6	23	5	4	1
S. by W. ...				1	2		5					
S. S. W. ...								4				1
S. W. by S. ...			1									
S. W. ...		3	3	25	15	50	35	40	19	13	8	14
S. W. by W. ...												
W. S. W. ...	2	1	5			1	1	5	2	4		
W. by S. ...					1							
West ...	21	19	34	19	25	6	4	14	7	20	12	8
W. by N. ..	1	1										
W. N. W. ...	2	1	1	3	5		1					
N. W. by W. ...	1		2									
N. W. ...	4	25	17	8	4		1	3	1	6	20	14
N. W. by N. ...		1										
N. N. W. ...												
N. by W. ...												
Variable ...												
Calm ...				6	12	2	2	4	8	17	3	20

FALSE POINT.

Four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	9	4	3	1	3			2	12	14	18	11
N. by E. ...											1	
N. N. E. ...	16	7	2					3	9	4	10	8
N. E. ...	31	15	7	1		1	1	3	8	15	34	28
N. E. by E. ...	1		2							2	2	4
E. N. E. ...	7	2	2	1				2	2	7	4	10
E. by N. ...	1										1	
East ...	21	7	3	2		4	1	1		5	6	3
E. by S. ...		2	1							2	12	
E. S. E. ...	2	2	1	1	6	2		2			3	1
S. E. by E. ...		3	1							1	2	
S. E. ...	12	6		3	2	5	6	6	2	6	1	5
S. E. by S. ...	1		3		1					1		1
S. S. E. ...		4	11	4	9		7	4	2	1		3
S. by E. ...						1			1			
South ...	6	8	3	8	8	3	4	7	4	6		7
S. S. W. ...		5	6	7	30	1	3	1	1	2		1
S. W. by S. ...								1		2		
S. W. ...	3	22	53	76	55	61	49	12	33	6		5
W. S. W. ...		7	5	3		11	16	11	6	3		
West ...	4	7	7	4	4	11	18	16	17	3		3
W. N. W. ...			6			5	4	31	11	4	3	1
N. W. ...	2	5	2	1	1	6	7	13	6	15	14	10
N. W. by N. ...											1	
N. N. W. ...	4	1	2						2	7	6	5
N. by W. ...	1										1	
Variable ...	2	1	3	6	5	6	5	1	3	4		6
Calm ...	1	7	1			3	3	9	1	15	1	12

CUTTACK.

Four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	3	2	2	2			4	1	5	27	35	20
N. by E. ...	3	2		1		2			1			
N. N. E. ...	1	2		2					2			
N. E. by N. ...	2								1			
N. E. ...	5	3	4	3	3	5	3	2	9	18	12	13
N. E. by E. ...	8	2	2					1	2			
E. N. E. ...	7	2						1				
E. by N. ...	18	10	5	5	3	6		5	3			
East ...	23	12	5	5	8	5	3	7	8	14	7	31
E. by S. ...	8	5	3	2	4	1	2	2				
E. S. E. ...	2	3			2							
S. E. by E. ...		3	1					3				
S. E. ...	8	2	10	7	11	4	4	3	4	6	3	17
S. E. by S. ...	3	3	6	1		1			1			
S. S. E. ...		3	5	2			1		1			
S. by E. ...	7	18	24	26	36	8	11	2	4			
South ...	5	7	13	29	23	10	11	5	24	12	7	13
S. by W. ...	2	6	10	19	12	12	19	3	3			
S. S. W. ...		2	1	1	2			2	2			
S. W. by S. ...	2	7	1			4	1		2	1		
S. W. ...	1		6	7	12	35	23	22	13	5	7	5
S. W. by W. ...	2	1		1		2		3	2			
W. S. W. ...								1				
W. by S. ...			5			3	4	6				
West ...			9	2	3	9	9	15	9	13	14	11
W. by N. ...	2	7	6	3	1	3	7	15	3			
W. N. W. ...	1	1	2				2	1	2			
N. W. by W. ...	3	2	1			7		6	3	1		
N. W. ...		2		2	2	3	18	16	12	26	33	14
N. W. by N. ...	3	1						1	1			
N. N. W. ...		2	2							1	2	
N. by W. ...	5	5	2		2		2	2	3			
Variable ...												
Calm ...												

SAUGOR ISLAND.

January to April, three Observations; other months, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	33	19	18	3	2	1	1	5	4	41	18	7
N. by E.	6	4									2	
N. N. E.										3	42	2
N. E. by N.	1									1	5	
N. E.	9	6	1	2				3	17	5	16	31
N. E. by E.	1											1
E. N. E.											6	6
E. by N.											1	
East	1	2	2	5	5	2	11	9	12	4	9	30
E. by S.												
E. S. E.												2
S. E. by E.		1										
S. E.	1			7	5	10	11	15	11	2		1
S. E. by S.												
S. S. E.											1	
S. by E.												
South	8	16	9	16	88	35	49	23	22	4		
S. by W.												
S. S. W.		1										3
S. W. by S.		2										
S. W.	8	16	48	52	24	59	46	32	43	22	3	10
S. W. by W.	1	4										
W. S. W.											4	10
W. by S.												
West	4		7	5		9	6	29	9	16	5	13
W. by N.												
W. N. W.												
N. W. by W.		5										
N. W.	4	3	5	1		4		6	2	20	6	4
N. W. by N.		3										
N. N. W.	2											4
N. by W.	11	1										
Variable	1											
Calm	2	4	3					1		6		

CHITTAGONG.

Two Observations daily to July; from August, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	11	5	4		1	3				3	21	48
N. by E. ...	3	1										
N. N. E. ...	4	1	2	1	1		1	1				
N. E. by N. ...	2	2						1				
N. E. ...	3	3	3		1	3		3	6	17	27	17
N. E. by E. ...								2	4	5		
E. N. E. ...			1	1			1	3	12	13	16	5
E. by N. ...					1		1					
East ...		1		4	1	7	5	14	30	35	23	21
E. by S. ...						2	2	1	1			
E. S. E. ...	1		1	2	2	3	4	3	1		7	2
S. E. by E. ...		1				2	1					
S. E. ...	1	2	1	1	1	3	6	9	16	5	1	
S. E. by S. ...			1	1		1		2				
S. S. E. ...		4	2	2	2	2	8	10	5	5		
S. by E. ...		4	3	11	5	9	11	2				
South ...		3	5	19	13	9	13	26	14	4		2
S. by W. ...					4	3	1	1				
S. S. W. ...		1	3	6	2	3	4	17	13	10	2	
S. W. by S. ...					1							
S. W. ...	6	16	7	5	14	6	2	10	15	9	1	3
S. W. by W. ...	6	4	12	1	2							
W. S. W. ...	4	1	7	2	2	2		2	2	1	8	12
W. by S. ...	5	1	5		2	1						
West ...	8	4	2		4			4		14	14	12
W. by N. ...		1										
W. N. W. ...	1					1			1	3		1
N. W. by W. ...		1										
N. W. ...	1				2							1
N. W. by N. ...	2	1	1									
N. N. W. ...	2		1	2								
N. by W. ..		1	1					1				
Variable ...												
Calm ...					1							

CALCUTTA.

Four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
North	39	16	4	2						3	7	10	81
N. by E.	4	1		1						3	5	4	18
N. N. E.	4	5	3		1			1	1	5	6	8	34
N. E. by N.													
N. E.	3	4	1	1	1			1	1	5	9	8	34
N. E. by E.													
E. N. E.			1		2		1		3	6	3	6	22
E. by N.		1	1		1				2	1	2	5	13
East			2	1	4	4	1	2	7	1	4	2	28
E. by S.		1	1	1	1		3	4	3	2	2	4	22
E. S. E.			1	3		2	11	3	8	2	4	2	36
S. E. by E.													
S. E.			1	8	8	7	4	5	15	5	6	1	60
S. E. by S.													
S. S. E.			2	6	16	10	11	9	10	7		6	77
S. by E.			5	8	14	5	17	11	15	8	1	3	87
South		5	17	26	28	14	24	11	15	8	3	7	158
S. by W.	1	2	15	11	19	9	13	7	11	6	2	4	100
S. S. W.	1	1	16	24	20	32	23	13	13	10	10	5	168
S. W. by S.													
S. W.	1	5	6	8	3	20	11	17	8	12	14	11	116
S. W. by W.													
W. S. W.			8	1	1	7	1	18	1	7	4	5	53
W. by S.		1	2	3		2		2		4	4	2	20
West	1	4	9	1				8	1	3	4	2	33
W. by N.		1	2	2				5		1	8	4	23
W. N. W.		3	3	3		1		1		9	4	6	30
N. W. by W.													
N. W.	5	10	4	1	1		1			8	8	4	42
N. W. by N.													
N. N. W.	10	9	2					1		5	9	12	48
N. by W.	1	1	1			1				2		3	9
Variable													
Calm													

JESSORE.

Two Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North			1		1			1		1	2	9
N. E.	6	9	3	2	5		1	4	3	27	24	20
East		1		4		4						
S. E.	1	8	9	14	32	24	41	30	42	9		4
South		5		2	2	8	3	1				
S. W.	2	5	17	33	21	13	16	10	11	2		
West			3			10	1	3				
N. W.	53	30	29	5	1	1		13	4	23	34	29
Variable												
Calm												

DACCA.

January, two Observations; other months, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	24	14	4	1	1					11	14	19
N. by E.												
N. N. E.	1	2	2	1	5					2	16	6
N. E. by N.												
N. E.	1	4	3	6	8	2		2	1	8	25	26
N. E. by E.										1		
E. N. E.		3	1	4	6	2		1	4	2	6	2
E. by N.								2				
East			3	5	14	2			11	6	5	4
E. by S.									3			
E. S. E.		4	7	10	12	5	9	8	5	5	6	1
S. E. by E.									2			
S. E.		1	4	11	12	14	19	15	15	14	7	4
S. E. by S.									8			
S. S. E.				14	13	22	26	14	18	1		2
S. by E.									2	1		
South	2	7	24	27	16	28	43	36	7	9	1	2
S. by W.									6			
S. S. W.		7	21	28	18	18	16	12	13	5		
S. W. by S.									5			
S. W.		7	19	5	6	13	4	19	8	11	3	2
S. W. by W.										1		
W. S. W.		5	10	2	2	12	3	3	3		6	1
W. by S.												
West	11	27	6	1	8	1	1	3	1		1	9
W. by N.									1			
W. N. W.		7	11	2				3	1	7	6	15
N. W. by W.									1			
N. W.	7	12	6		1		2	2	3	35	5	24
N. W. by N.								1				
N. N. W.	16	16	3	3	2	1	1	2		4	17	5
N. by W.												
Variable												
Calm												

HAZAREEBAUGH.

Two Observations daily to June; other months, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	9	6		4	7	7	2	3	15	4	7	6
N. by E. ...										4	1	
N. N. E. ..									1	3		4
N. E. ...	4	1	1	4	3	7	11	1	13	1	6	
E. N. E. ...									2		2	
East ...	2	1	4		11	7	22	14	26		2	3
E. by S. ...											1	
E. S. E. ...									3	1		
S. E. ...		3	2	5	4	2	17	13	15			4
S. S. E. ...										1		4
S. by E. ...											2	1
South ...	4	3	3	7	14	6	17	10	12	5	6	7
S. by W. ...											6	
S. S. W. ...										3	12	11
S. W. ...	6	5	9	6	5	3	14	14	8	8	6	13
S. W. by W. ...										3		
W. S. W. ...										10	1	4
W. by S. ...										1		
West ...	15	25	17	10	6	20	17	59	14	18	8	20
W. by N. ..										6	10	
W. N. W. ...										18	15	14
N. W. by W. ...										8	5	1
N. W. ...	22	14	26	24	12	8	6	10	10	17	19	19
N. W. by N. ...										3	1	
N. N. W. ...									1	9	10	11
N. by W. ...												1
Variable ...												
Calm ...												

BERHAMPORE.

Two daily Observations to October; November and December, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	9	7	8	1	2			2		2	31	32
N. by E. ...	4		1									
N. N. E. ...	1	1							1		4	5
N. E. ...	5	2	5	10	11	5	3	7	8	6	4	8
E. N. E. ...						1			3		6	8
E. by N. ...									1			
East ...		2		5	13	11	3	5			4	3
E. by S. ...	1	2										
E. S. E. ...						1			1	1		2
S. E. ...			3	16	14	18	36	18	22	6	4	
S. S. E. ...			1	4	7	3	2	3	8	5		1
South ...				2	3	3	3	4		1		
S. by W. ...		1										
S. S. W. ...				1	2	10	7	4	6	1		2
S. W. ...	1	5	10	11	5	4	5	8	5	5	6	3
W. S. W. ...									2	1	2	4
W. by S. ...			2						1			
West ...	5	14	16	4	2	2	1	7		6	7	3
W. by N. ...	1	4	1									
W. N. W. ...										8	5	7
N. W. ...	28	14	14	6	2	2	2	4	1	16	22	17
N. N. W. ...	4	2							1	4	25	29
N. by W. ...	3	4	1									
Variable ...												
Calm ...												

PATNA.

Eleven months, two Observations daily; December, four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...		1	1	2			2		3	10	7	2
N. N. E. ...		3	1									7
N. E. ...	2	2	2	3	17	4	5	2	22	8	3	4
E. N. E. ...				1	1						1	2
East ...		2	10	16	20	18	26	5	17	2	1	13
E. S. E. ...	4		1									1
S. E. ...		2	4		6	10	4	7	3	2	2	5
S. S. E. ...	1	1								1		4
South ...			1		1			1	1	1	2	1
S. S. W. ...	2					1					1	3
S. W. ...	1	8	5	3	2	2	3	6	4	7	4	4
W. S. W. ...	1	3										2
West ...	5	12	14	9		20	14	19	6	13	16	16
W. N. W. ...	40	11	7	6	8	4	3				6	26
N. W. ...	2	13	16	15	7		5	22	4	16	14	17
N. N. W. ...	3		4	1						2	3	17
Variable ...												
Calm ...												

DARJEELING.

Four Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...				1	2	2	1		1		1	3
N. by E. ...												
N. N. E. ...			2									
N. E. by N. ...												
N. E. ...		1	2	2	2	4	1	2	2	2	3	1
N. E. by E. ...												
E. N. E. ...		1								2		
E. by N. ...	1	1	1		1	1	3	3	1			
East ...	14	9	10	9	8	17	16	27	37	21	24	28
E. by S. ...	3	6	1	1	3	5						
E. S. E. ...	11	8	7	8	9	16	17	9	5	8	8	10
S. E. by E. ...	5	2										
S. E. ...	9	8	10	11	13	18	24	29	22	16	13	13
S. E. by S. ...												
S. S. E. ...	2					1	4					1
S. by E. ...												
South ...	3	1	1		4	1		3		3	11	2
S. by W. ...												
S. S. W. ...	3		1		2	2	1	1	1			
S. W. by S. ...												
S. W. ...	21	17	11	6	6	2	2	6	4	15	3	3
S. W. by W. ...	1	1										
W. S. W. ...		4	6	1		1				2	2	8
W. by S. ...	4	5	5	3	1	5	3	1				
West ...	16	19	37	46	48	31	35	31	30	36	27	39
W. by N. ...	1	4		3	4	3	1	2				
W. N. W. ...	2	6	5	6	2	6	2	2	3	7	7	6
N. W. by W. ...	2		2									
N. W. ...	3	2	6	6	6	1	2	3	4	14	20	9
N. W. by N. ...	1											
N. N. W. ...							1					
N. by W. ...												
Variable ...							1					
Calm ...												

BENARES.

Two Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
North	2	1			6	1	4		4	7	13	5	
N. E.	10	3	1	3	16	8	6	5	12	6	1	7	
East	6	3	8	5	14	14	15	7	17	8	2	8	
S. E.	5	4	4	1	1		1		1	1	1	1	
South	2								2	2	3	1	
S. W.	7	9	5	4	2	8	3	6	5	5	4	2	
West	12	31	28	33	8	25	26	34	10	15	22	29	
N. W.	18	7	6	11	11	2	4	6	6	11	12	6	
Variable													
Calm			8	2	2	2	3	4	3	7		3	

ROORKEE.

Two Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
North	1								2				
N. E.		8	4	4	1	5	8	3	4	6		1	
East		3		2	1	1	2	1	2	3			
S. E.	4	2	4	11	20	14	15	10	11	10	7	9	
South	1	1	3	3	3	3	3			1	2		
S. W.	20	11	3	7	7	7	5	5	3	3	1	5	
West	7	5	10	7	6	11	10	13	7	7	4	4	
N. W.	8	18	20	15	4	4	6	11	9	9	9	13	
Variable													
Calm	21	10	18	11	20	15	13	19	22	22	37	30	

APPENDIX A.

Specimen of Telegram and Translation.

Telegram.

KBL VNKQL half of BVKBNC QNLZZ half of BNKCZZ CCBKZ half of JJGZZ. Initials BV.

Conversion.

5-16—97586 half of 195172—87600 half of 175200—22150 half of 44300, Initials BV

Interpretation.

5th day 16h.

Barometer	... ...	29.75
Attached Thermometer	...	86
Thermometer dry bulb	...	87
Difference of wet and dry bulbs		6.
Rain-fall	... ...	0·0 ins.
Wind ...	... ...	W. S. W.
Velocity	... ...	15 miles per hour.
Cloud ...	... ...	0·

Sky clear.

Atmosphere transparent.

APPENDIX B.

(*Specimen,*)

Abstract of Observations as received in the Meteorological Reporter's Office, Calcutta,

FOR THE MONTH OF MARCH, 1869.

N. B.—The Barometric data are reduced for temperature, and not for height above sea level.

STATIONS.	Height above sea level.	BAROMETER.						THERMOMETER.																HUMIDITY						
		Means of					Range.	Solar radiation.					Mean of max.	Mean daily range.	Mean of min.	Mean.	Means of				Highest Max.		Monthly range.	Lowest Mean.		Mean.	Means of				Rain-fall.	No. of days' rain.
		Mean.	4 hours.	10 hours.	16 hours.	22 hours.		Mean.	Max.		Min.						4 hours.	10 hours.	16 hours.	22 hours.	Day.	°		Day.	°		4 hours.	10 hours.	16 hours.	22 hours.		
									Day.	°	Day.	°																			
Port Blair ...	218 ft.	...	...	29·753	29·647	...	...	152·9	8th	162·0	4th	145·0	87·5	13·4	74·1	...	...	84·3	86·1	...	25th	92·0	21·0	15th	71·0	...	...	67	62	...	Nil	...
Madras ...	29	...	...	29·955	29·831	...	...	...	...	...	...	...	...	...	...	...	...	87·2	85·9?	...	...	...	...	...	...	...	...	56	62?	...	Nil	...
Akyab ...	7·5	29·898	29·872	29·954	29·857	29·910	·097	...	...	...	...	...	88·9	17·8	71·1	80·3	75·5	81·8	84·8	79·2	19th	97·0	33·0	2nd	64·0	72	80	66	65	78	Nil	...
False Point ...	18·7	29·954	29·955	29·997	29·913	29·951	·084	...	...	...	...	...	...	...	...	80·3	76·6	82·6	83·3	79·4	...	...	...	...	...	85	88	82	82	88	3·60	6
Cuttack ...	80	29·848	29·839	29·912	29·771	29·872	·141	...	...	...	...	...	92·0	22·7	69·3	81·3	75·5	83·7	87·4	78·9	29th	97·0	29·5	10th 11th	67·5	71	83	67	56	79	2·77	8
Saugor Island..	4	29·893	29·865	29·941	29·849	29·906	·092	...	...	...	...	...	85·6	10·0	74·6	81·3	78·2	82·0	84·6	80·3	26th	90·3	24·8	10th	65·5	82	87	82	74	87	3·09	7
Chittagong ...	108	29·782	29·865	29·843	29·736	29·777	·107	...	...	...	...	...	...	...	...	80·5	76·2	82·2	84·2	79·5	...	...	...	...	...	79	84	76	71	84	0·52	3
Calcutta ...	18·11	29·872	29·842	29·946	29·817	29·883	·129	126·7	31st	135·0	10th	110·0	88·2	14·8	73·4	80·3	74·6	81·0	87·3	78·3	31st	94·5	28·7	10th	65·8	71	87	69	52	78	4·59	4
Jessore ...	15	29·888	29·872	29·951	29·820	29·909	·131	143·0	19th	154·0	4th	115·0	91·8	23·9	67·9	79·9	70·9	84·7	88·7	75·6	31st	100·5	38·7	10th	61·8	68	90	57	46	79	3·39	4
Dacca ...	35	29·839	29·824	29·908	29·777	29·848	·131	...	...	...	...	...	89·7	20·8	68·9	78·7	70·8	84·1	85·9	74·0	31st	98·7	34·2	11th	64·5	72	92	59	53	84	2·24	5
Hazareebaugh.	2010	27·867	27·842	27·927	29·809	27·892	·118	141·6	3rd	153·0	14th	132·0	86·5	24·4	62·1	73·7	64·2	77·3	83·0	70·3	31st	94·0	39·0	10th	55·0	51	66	45	36	59	1·97	7
Berhampore ...	80	29·806	29·784	29·887	29·738	29·816	·149	141·8	29th	149·5	7th	118·5	90·6	19·4	71·2	79·9	72·6	81·3	88·8	77·2	28th	104·0	39·2	3rd	64·8	57	73	53	39	65	3·28	4
Patna ...	171	29·672	29·650	29·741	29·623	29·676	·118	146·3	30th	157·0	29th	116·0	91·8	31·4	60·4	76·9	64·3	82·9	88·9	71·8	31st	98·3	47·2	9th	51·1	38	55	31	24	43	0·55	8
Monghyr ...	150	...	...	29·776	29·651	29·720	·125	145·4	21st	155·9	22nd	130·0	93·3	29·7	63·6	...	...	82·0	89·5	76·6	21st	100·0	41·0	13th	59·0	...	...	47	39	57	0·64	4
Darjeeling ...	6730	23·313	23·280	23·356	23·288	23·328	·076	...	...	...	...	...	63·9	19·2	44·7	52·8	48·1	54·9	58·1	50·1	18th	72·0	33·3	10th	36·7	61	54?	63	55	71	1·20	5
Gowalparah ...	?	...	...	29·503	29·373	...	...	125·8	29th	137·0	4th	105·0	85·9	24·2	61·7	...	...	79·1	83·6	...	27th 19th	94·0	36·8	12th	57·2	...	...	54	41	...	0·58	4
Debrooghur* ..	620	29·956	29·949	30·024	29·900	29·950	·124	119·3	27th	128·0	3rd	100·0	80·0	...	...	68·6	62·3	70·1	76·4	65·7	20th	87·0	...	...	...	81	89	77	70	88	2·10	4
Benares ...	260	29·662	29·638	29·723	29·617	29·663	·106	...	...	...	...	...	...	...	...	...	...	85·4	89·8	...	...	...	...	...	...	...	...	33	27	...	0·40	2
Roorkee ...	880	28·996	28·968	29·043	28·970	29·003	·175	133·5	28th	147·1	15th	77·1	79·6	22·0	57·6	68·3	60·5	71·7	76·9	64·1	30th 31st	89·2	37·0	8th	52·2	65	80	61	48	72	3·22	8

* No correction for index error has been applied to the Debrooghur Barometric readings.

APPENDIX C.

(*Specimen.*)

Weekly Report of Rain-fall compiled at the Meteorological Reporter's Office.

Divisions.	Stations.	Rain from 31st May to 6th June 1869.	Rain from 7th to 13th June 1869.	Rain from 1st January 1869.		Remarks.
				Rain.	Up to Date.	
		Inch.	Inch.	Inch.		
Central.	Calcutta ...	Nil	11·81	23·54	13th June 1869.	
	Saugor Island ...	ditto	5·40	14·20	ditto	
	Jessore ...	ditto	9·59	27·33	ditto	
	Kishnagur ...	Not received.	Not received.	4·20	30th May 1869.	Not received from 1st to 7th Jan.
	Hooghly ...	Nil	9·80	21·10	13th June 1869	
	Howrah ...	ditto	12·30	31·48	ditto	Not received from 15th to 21st Mar.
	Serampore ...	Not received.	Not received.	11·50?	10th May 1869.	Not received from 29th March to 18th April, and 26th April to 9th May.
	Pubna ...	0·48	11·71	29·64	13th June 1869	
	Furreedpore ...	Nil	Not received.	15·40	6th June 1869	Not received from 1st to 24th January, 16th to 28th February, 8th to 14th and 22nd to 31st March, and 5th to 11th April.
	Contai ...	ditto	7·33	18·68	13th June 1869.	
	Berhampore ...	0·12	8·30	17·36	ditto	
	Alipore ...	Nil	Not received	12·90?	6th June 1869	
Western.	Burdwan ...	ditto	9·30	14·00	13th June 1869.	
	Raneegunge ...	ditto	3·50	9·26	ditto	
	Purulia ...	0·20	2·35	3·45	ditto	Not registered from 1st January to 9th May.
	Sooree ...	Nil	9·00	14·90	ditto	
	Deoghur ...	0·70	3·33	8·96	ditto	
	Hazareebaugh ...	0·14	Not received.	3·52	6th June 1869.	
	Chyebassa ...	Nil	ditto	2·56	ditto	Not received from 1st January to 2nd May.
	Midnapore ...	ditto	3·20	14·70	13th June 1869.	
	Bancoorah ...	0·25	3·45	12·75	ditto	
South-Western.	Cuttack ...	0·40	1·50	7·87	ditto	
	False Point ...	Nil	Not received.	5·90	6th June 1869.	
	Pooree ...	Not received.	ditto	1·00	30th May 1869.	
	Balasore ...	Nil	1·92	16·34	13th June 1869.	
	Sumbulpore ...	1·00	Not received.	2·30	6th June 1869.	Not received from 19th to 25th April.
North-Western.	Benares ...	Nil	Nil	0·45	13th June 1869.	
	Chuprah ...	ditto	0·60	1·43	ditto	
	Patna ...	ditto	0·12	1·67	ditto	
	Monghyr ...	ditto	1·23	3·62	ditto	
	Bhaugulpore ...	3·00	4·70	10·30	ditto	Not registered from 1st January to 25th April.
	Arrah ...	Nil	1·20	2·10	ditto	
	Buxar ...	ditto	1·30	1·70	ditto	Not received from 1st January to 21st March.
	Chumparun ...	ditto	0·40	1·50	ditto	Not received from 1st January, to 25th March.
Northern.	Darjeeling ...	1·77	2·56	15·68	13th June 1869.	
	Maldah ...	0·70	11·57	16·06	ditto	
	Rampore Beauleah ...	0·60	13·75	23·00	ditto	
	Bograh ...	0·20	Not received.	14·30	6th June 1869.	
	Rungpore ...	8·50	17·40	36·40	13th June 1869.	
	Dinagepore ...	7·70	9·50	26·55	ditto	
	Julpigoree ...	12·05	6·92	34·57	ditto	
	Mynagoree ...	Not received.	Not received.	Nil	14th Jan. 1869.	
North-Eastern.	Shillong ...	0·89	ditto	16·16	6th June 1869.	Not received from 29th to 31st Mar.
	Gowalparah ...	7·86	ditto	28·58	ditto	
	Mymensing ...	0·80	ditto	33·85	ditto	Not received from 15th to 21st February and 8th to 21st March.
	Gowhatty ...	1·70	ditto	25·00	ditto	
	Noakhally ...	0·50	ditto	9·61	ditto	Not received from 15th to 28th Feb.
	Nowgong ...	1·60	ditto	24·10	ditto	
	Tezpore ...	3·03	ditto	24·39	ditto	
	Dholebagaun ...	Not received.	ditto	30·62	30th May 1869.	Not received from 17th to 23rd May.
	Seebsaugor ...	1·40	ditto	39·70	6th June 1869.	
	Deebrooghur ...	3·00	ditto	55·88	ditto	
	Samoogoodting ...	Not received.	ditto	19·75	30th May 1869.	Not received from 10th to 16th May.
Eastern.	Chittagong ...	Nil	3·50	20·00	13th June 1869.	
	Dacca ...	ditto	Not received.	22·31	6th June 1869.	
	Burrisaul ...	0·10	ditto	4·00	ditto	Not received from 1st January to 11th April and 19th April to 9th May.
	Tipperah ...	2·05	ditto	35·63	ditto	
	Sylhet ...	3·70	ditto	79·00	ditto	
	Cachar ...	2·17	ditto	41·93	ditto	
	Rangamatea Hill ...	2.10	ditto	28·35	ditto	

REPORT

OF THE

METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL.

METEOROLOGICAL ABSTRACT

For the year 1869.

By HENRY F. BLANFORD,
Meteorological Reporter.

CALCUTTA:
CALCUTTA CENTRAL PRESS COMPANY, LIMITED,
5, COUNCIL HOUSE STREET.

1870.

ERRATA

In the Report for 1868-69.

Page 10. In the table, *for* 26° 47′ the longitude of False Point, *read* 86° 47′.

„ „ „ „ *for* 6,730 feet, the elevation of Darjeeling, *read* 6,952 feet.

„ 23. „ „ *for* DARJEELING, col. 1, line 1, *for* 23,312, *read* 23,362.

„ „ „ „ „ col. 1, line 2, *for* 23,297, *read* 23,293.

„ „ „ „ „ col. 1, line 9, *for* 23,311, *read* 23,318.

„ „ „ „ *for* ROORKEE, col. 1, line 11, *for* 29,072, *read* 29,082.

„ „ „ „ „ col. 5, line 11, *for* 29,048, *read* 29,084.

„ 25. „ „ cols. 2 & 3, line 2, *for* { January 29,948 | February 30,025 } *read* { January 30,025 | February 29,948

„ 27. „ „ *for* 29,516, the September mean *for* Saugor Island, *read* 29,616.

„ „ „ „ *for* 30,000, the December mean *for* Roorkee *read* 30,009.

„ 37. Line 18 from bottom of page *for* July..... +0·7, *read* July..... +0·7.

„ 54. In the right June column of table, line beginning "Darjeeling," *for* 1851, 57, 59, *read* 1851, 57-59.

„ „ In the same column, next following line *for* 63, 1851, 58-59, 65, 67-68, *read* 1851, 58-59, 63-65, 67-68.

ERRATUM

In the report for 1869-70.

Page 5. Line 6, *for* "the mean elevation of which is not less than 5,000 or 6,000 feet," *read* "the mean elevation of which is from 1,000 to 2,000 feet."

METEOROLOGICAL ABSTRACT FOR 1869.

Introductory Remarks.

The year now under report must be regarded as the second only during which the meteorology of Bengal has been at all systematically observed, since the results for 1867 were too scanty and imperfect to be brought into general comparison with those of the last two years. The first and second class stations established and equipped in 1868 and previous years have been during the past year in good working order, and, with one or two temporary exceptions, (to be noticed in due place,) have afforded registers which, I believe, may be accepted as trustworthy and comparable with each other. The additional stations established during the past year have also yielded fair results during the greater part of the year, with one exception, the registers of which, in spite of all endeavours to improve them, have remained so unsatisfactory, that I shall omit them entirely from consideration in this abstract of results. I equally omit all data that appear to me of doubtful value, from whatever cause the doubt may arise. If, as in the case of one of the barometric registers, the results are known to be approximate only, but to be within a small distance of the truth, I give them with a statement of the circumstances. A similar remark applies to the rain-fall registers.

The meteorological elements, of which an abstract is here given, are :—

Atmospheric pressure.
Mean temperature of air.
Extreme temperature of air.
Temperature of solar radiation.
Temperature of grass nocturnal radiation.
Humidity.
Proportion of cloud.
Wind direction.
Rain-fall.

Of these, the atmospheric pressure, mean temperature, humidity, wind direction and rain-fall have been recorded at all first and second class stations; with a few hiatus, generally due to destruction or injury of the instruments. A sufficient supply of radiation thermometers was not available until late in the year, and the registers of solar and terrestrial radiation are therefore very imperfect.

I have included in this, as in my last year's abstract, the registers of those stations out of Bengal, for which I am indebted to the meteorological reporters of the North-Western Provinces and Madras, and to Dr. Curran, of Port Blair. The meteorology of Bengal cannot be treated independently of that of other parts of India and the neighbouring seas, and I cannot but express a hope that before long it may be possible to include in one general report, the data of a very much wider area.

The rain-fall registers received from third class stations are subject to the same remarks as those for the previous year. They must be accepted as approximate and not as exact. Those which are evidently much in error are omitted.

Hours of Observation.

The hours of observation of the barometer, thermometer, hygrometer and wind direction are 4h., 10h., 16h., and 22h. All four periods are observed at the majority of the stations. From Port Blair and Madras only two sets of observations daily have been received, and at Monghyr and Goalparah the 4h. and 22h. observations of a few months are omitted as being inaccurate. The readings of minimum thermometers are taken at 10h., those of the maximum thermometers and the rain-guage at 18h. The practice noticed in my report for last year (p. 10) of recording the observations according to Madras or telegraph time at Cuttack, Dacca, Chittagong and Akyab was observed at those stations up to the end of April of the present year.*

Stations.

The following table gives the geographical positions of all the stations of observation; also the elevation of the barometers above sea-level; or the elevation of the general level of station, if the exact elevation of the instrument has not been ascertained. I append, moreover, a brief description of the physical geography of each station, as far as I am able to do so from a personal knowledge of the place, or from trustworthy information.

Table I.—Latitude, Longitude, and Elevation of Stations.

Stations.	Lat. N.	Long. E.	Elevation in feet.	How determined.	Remarks.
Port Blair ...	11° 41′	92° 42′	218	?	
Madras ...	13° 5′	80° 17′	29	?	Bar. Cistern.
Akyab ...	20° 8′	92° 57′	15†	Measured ...	Do.
False Point ...	20° 20′	86° 47′	187·7	By Spirit Level ...	B. M. Light-house.
Cuttack ...	20° 29′	85° 54′	80	Do. ...	Bar. Cistern.
Saugor Island ...	21° 39′	88° 5′	6‡	Estimated ...	Bar. Cistern approx.
Chittagong ...	22° 21′	91° 50′	108	By Barometer ...	Do.
Calcutta ...	22° 33′	88° 21′	18·11	By Spirit Level ...	Do.
Jessore ...	23° 9′	89° 7′	15	Estimated ...	Do.
Dacca ...	23° 43′	90° 27′	35	Measured above Ground Level. G. L. estimated ...	Do.
Hazareebaugh ...	24°	85° 24′	2,010	?	
Berhampore ...	24° 6′	88° 17′	80	?	
Gya ...	24° 42′	85° 2′	450 ?	Estimated ...	
Patna ...	25° 37′	85° 8′	171	By Level ...	Station B. M.
Monghyr ...	25° 22′	86° 30′	150	Do.	Bar. Cistern.
Silchar ...	24° 49′	92° 50′	76	By Trig. ..	Do.
Shillong ...	25° 32′	91° 54′	4,825§	By Barometer ...	Do. approx.
Goalparah ...	26° 11′	90° 40′	386	By Level to G. T. S. Bench mark ...	Do.
Darjeeling ...	27° 3′	88° 18′	6,952‖	By Trig. ...	
Benares ...	25° 20′	83° 2′	253·30	By Level ...	Cantonment B. M.
Roorkee ...	29° 52′	77° 56′	905	Do.	Roorkee College L. B. M.

* At Cuttack up to the 1st May, and at Akyab to the 6th May, at Chittagong to the 20th April, at Dacca to the 21st April; since which period mean local time has been observed as at other stations.

† Erroneously given as 25 feet in the Report for 1868.

‡ Given as 4 feet in the Report for 1868.

§ From the means of eight months' observations with Goalparah, and of six months' observations with Cachar.

‖ Erroneously given as 6,730 in the Report for 1868. The Observatory is at the house known as "The Dale," for the elevation of which see Hooker's Himalayan Journals, Vol. II, Appendix, page 467. From a comparison of two years' series of observations with Calcutta, five months with Monghyr, and eleven months with Goalparah, the height is 6,954 feet.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger island. A range of mountains runs through the island from north to south, protecting Port Blair, in some measure, from the south-west monsoon. The Observatory is situated on Viper Island, a small rocky islet some distance up the harbour.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's Mount and Palaveram (7 and 10 miles from Fort St. George.) The country rises gradually to the westward, forming the plains of the Carnatic or Payen-ghaut, and the nearest hills of considerable elevation are the Naggery Hills, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Akyab, on the coast of Arracan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne River, much of which is flooded in the rainy season. The Arracan Hills, covered with an almost impenetrable jungle, are at a few miles' distance to the north-east of the station.

False Point.—The Light-house is a conspicuous land-mark on the coast of Orissa, standing on a prominent point of the Mahanuddy Delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant fifty miles. The coast-line trends about north-east and south-west, so that winds from east and south are sea winds; those from west and north, land winds.

Cuttack is built on flat alluvial ground at the head of the Mahanuddy Delta. The river, one of the largest in the peninsula of Hindostan, issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches :—the Kajouri and the Mahanuddy, in the fork of which Cuttack is situated. To the west and north the country is hilly, and much covered with jungle, while to east and south of the station stretches the delta of the Mahanuddy, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island, the telegraph station at which is also the Meteorological Observatory, is situated close to the south-western extremity of Saugor Island, one of the low-lying alluvial islands of the Soonderbuns, and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal, to the west and north-west the estuary of the Hooghly, here about twenty miles broad, with the low marshes of Hidgellee beyond. To the east and north-east stretch the swampy jungles of the Soonedrbuns, much of which are flooded at spring tides. Indeed the station itself is below high-water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arracan mainland, in the extreme north-east corner of the Bay of Bengal, and opposite to the embouchure of the Megna, the largest

estuary of the Gangetic Delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, and forming the port of Chittagong, here enters the sea, from which the station of Chittagong is distant about three miles. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of a more elevated plain, formed of highly inclined (tertiary ?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about twenty miles distant. Thus situated, the station is exposed to the brunt of the south-west monsoon, and the rain-fall, as along all the Arracan Coast, is comparatively heavy.

Calcutta is situated sixty-eight miles from the sea, and about the same distance from the western edge of the Gangetic Delta alluvium, which formation stretches away northward to the Himalaya, four hundred miles distant, and eastward for two hundred miles, nearly to the Tipperah Hills. About three miles to the east of Calcutta is the margin of the Salt Lake, a shallow brackish lagoon in an unfilled depression of the delta. To the south of this much of the Soonderbun land is still unreclaimed from jungle, but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jheels) occur in many directions around Calcutta, and over all parts of the delta. The climate of Calcutta is, therefore, moist, and the herbage green, throughout the year. The thermometric range, both annual and daily, is less than at stations higher up the country, and the latter in the driest month of the year (March) does not exceed 19° or 20.°

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca.—Between the former course of the Brahmapootra, (still in its lower part a broad channel, the Megna) and that which the river now follows to its confluence with the Pudda or Ganges at Goalundo, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at the southern extremity of this tract, within a few miles of the Megna, on the bank of a small branch of the Brahmapootra. To the south is a net-work of broad rivers stretching to the sea, and in other directions (except the north) rice lands and grass jungle, which are flooded in the rains. At that time of the year, with the exception of the Madhopore jungle, but little land is visible. Hence the high humidity of the station.

Darjeeling, on a spur of the Singalelah Range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The Electric Telegraph Office, at which the thermometers, barometer and rain-guage are kept, is in the latter position, a little below the summit. The wind vane, &c., are on the crest of the ridge.

Silchar.—This station is situated on the left bank of the Barak River, on an alluvial plain, but little elevated above the flood level of the river. Ridges

of low forest-clad hills run southwards from the river bank at intervals of six or eight miles, and the intervals are occupied by plains, a great part of which are under water in the rains, and in the dry weather are converted into bheels, swamps, and (where cleared of forest) paddy fields. Twenty or thirty miles to the south of the station, the ridges abovementioned run up into the hill country of South Cachar, the mean elevation of which is not less than 5,000 or 6,000 feet; and at ten miles to the north of the river are the Naga Hills (an eastern extension of the Garrow and Khasi plateau.) About twenty miles to the eastward the valley is closed by the Burrail Range.

Shillong, on the northern slope of the Khasi Hills, overlooking the valley of Assam. It is but thirty miles north of Cherra Poonji, (the rain-fall of which is well-known to be the heaviest anywhere yet recorded,) but three ridges of greater elevation intervene, and the rain-fall at Shillong, though frequent, is by no means excessive, amounting only to 95·88 inches on the average of four years. Shillong Hill, one of the highest on the Khasi plateau, is immediately to the south of the station, which lies in a broad valley between the main ridge and one of its spurs. The hills are generally covered with coarse grass, patches of pines being scattered here and there, but not attaining to a very vigorous growth. The hills fall away very gently to the Brahmapootra, which is at a distance of about sixty miles.

Goalparah is on the south bank of the Brahmapootra, near the lower termination of the Assam Valley. The Observatory is situated on a hill close to the station, 249 feet above the river*, and 386 feet above sea-level. It is described as the only open spot about the station. To the south are the Garrow Hills.

Berhampore, one hundred and seventy miles from the sea, on the left bank of the Bhagirutee, thirty miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground rises from a short distance to the west of the river, up to the foot of the Rajmehal Hills, and the undulating country of Beerbhoom.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the northern extremity of the Kurruckpoor Range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quartzites, and preserving the same mineral characters, they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain; to the south and south-east, the rocky and elevated country of Hazareebaugh and the Damin-i-koh, chiefly covered with forest, and of which the Kurruckpore Hills form the north-western corner.

Hazareebaugh is situated in the elevated and hilly country south of the Ganges, and between its delta and the valley of the Soane. To the south of the station the ground falls rapidly to the Damoodah; to the north it declines gently to the general level of the plateau, traversed by the Great Trunk Road, which at Burhee (due north of Hazareebaugh) has an elevation of 1,160 feet. The country is undulating or hilly, and much covered with jungle.

* Above the highest water mark.

Gya.—This station is situated sixty miles south of Patna, on the plain lying to westward of the range which bounds the Hazareebaugh and Parasnath plateau on the west, and at an elevation of about 450 feet above the sea. Since this plateau, having a mean elevation of 1,100 to 1,300 feet, with hill masses of much greater height, intervenes between the Bay of Bengal and the plain of Gya, and must be traversed by the South-East winds, which bring the rains to Behar and the N. W. Provinces, the climate of Gya is hot and dry.

Patna, on the south bank of the Ganges, below the confluence of the Soane, and surrounded by the alluvial plains of these rivers.

Benares, on the north bank of the Ganges, one hundred and eighty miles west of Patna. From the south bank of the river, the alluvium extends to the foot of the Kymore plateau, which intervenes between the valleys of the Ganges and the Soane. To the north is the flat alluvial plain of Oude.

Roorkee, near the head of the Ganges Canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

Atmospheric Pressure.

The instruments in use at all the stations except False Point and Shillong are mercurial barometers furnished either with a moveable plug for adjusting the mercury level of the cistern to the zero of the scale (Fortin's principle,) or with a moveable scale the zero of which is adjustable to the cistern level (Newman's standard construction.) At False Point a marine barometer of Fitzroy's pattern is in use, and at Shillong an aneroid barometer. All, except the instruments at Madras, Benares and Roorkee, have been compared directly or indirectly with the Calcutta standard, and some both before issue, and since they have been in use at the stations. The Shillong aneroid was thus compared at the station with a mercurial mountain barometer, which had been compared directly with the Calcutta standard before leaving Calcutta, and was again tested on its return. The corrections thus determined have been in every case applied to the individual readings of the registers, and the corrections for temperature have been applied in like manner. The reductions have been checked by recomputation in my own office, and the means deduced from the corrected and reduced readings in the usual manner.

There is a slight uncertainty about the readings at Berhampore from the 15th April to the 16th July, though not such as greatly to impair their value. A leakage of mercury from the barometer in use was observed on the 16th April, owing to which the cistern level could not be adjusted to the fiducial point. From a comparison of the barometer curve some days before and some days after this date with that of Dacca, (with which its variations closely coincide,) the error thus arising appears to have been 0·1 inch. In July the barometer was replaced by a new and compared instrument, and the error of the former was found to be 0·125 inch. This amount has, therefore, been applied as a correction to the readings taken during the interval.

For the majority of the stations the monthly means of the readings at each of the six-hourly periods are given together with those of the day, and the range of the major diurnal semi-tide, (that from 10h. to 16h.*) For Port Blair and Madras, I have readings at but two daily periods, but I have shown in my report for 1868, that there is but a trifling difference between the mean of these and that of four equidistant periods in the case of Calcutta. I have since instituted a comparison of these two methods of deducing a daily mean in the case of eight stations† selected so as to include as great a variety as possible of local conditions. The result is, that the greatest difference for any one month at any station amounts to ·016 inch, the 10h., 16h. mean being in one case +, (April, Chittagong) in another case —, (February, Darjeeling.) The greatest difference at any one station on the mean of the year was + ·007 occurring at Roorkee and Chittagong: the least, + ·002, at Akyab and False Point: the mean for all stations + ·004. As a general but not invariable rule, the 10h., 16h. mean is slightly higher in the cold weather months, slightly lower in the months of the rains, but I have failed to discover any such definite rule, as will allow of a constant correction being applied, and the difference is so small, that in drawing up charts of the mean distribution of atmospheric pressure, a method of procedure which I have followed with very fruitful results, the 10h., 16h. means may be collocated with those of the four daily periods without risk of any error of importance. In the following tables the former are distinguished by an (*).

Table III. gives the monthly mean pressures at all the stations, reduced to sea-level from the elevations given in Table I. For elevations below 500 feet, the reduction is effected by simply adding the barometric weight of a column of air of the observed mean monthly temperature (Table IV.) For stations at greater elevations, Dippe's tables have been used.

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* During the past year Darjeeling offers an exception to this rule, except in the three cold weather months December to February, (April being however wanting in the register.) Calling the 10h. to 16h. semi-tide = 1, the ratio of the 4h. to 10h. semi-tide is as follows in each month:—

January ...	0·90	May ...	1·18	September ...	1·10
February ...	0·90	June ...	2·00	October ...	1·06
March ...	1·12	July ...	1·66	November ...	1·06
April ...	?	August ...	1·23	December ...	0·94

The gradual relative increase of the morning tide in the hot weather months, its sudden increase and great predominance in June, and gradual decrease afterwards, suggest an explanation of the phenomenon, *viz.*, that it is due to the greater range of temperature over the plains, as compared with that of the forest clad hill region; and the consequent disturbance of equilibrium of the plane of equal pressure. The result of this will be, that a portion of the upper atmosphere is transferred to the hill region during the hottest hours of the day, neutralizing a portion of the local fall of the barometer between 10h. and 16h: while at the period of minimum temperature, air is transferred from above the hills to above the plains, the plane of equal pressure now being inclined in an opposite direction. Consequently, the barometric minimum of 4h. is lowered.

It is true that the Darjeeling register but partly verifies this explanation, since the range of temperature at the station (accepting the 4h. reding as the minimum, which it appears to be) is not much less than on the plains below. But, as Dr. Hooker has pointed out, the mean daily range of temperature is considerably less in wooded spots than in a clearing, such as is the site of the observatory, "and certainly one-third less in the forest itself," and the greater part of the hills are thickly clothed with forest.

It must, however, be observed that the register for 1868 shows that in that year the mid-day semi-tide was equal to, or greater than, that of the morning throughout. The phenomenon therefore requires a more thorough investigation.

Sir J. Herschell (Meteorology, p. 167) has predicted the effect here noticed, as a necessary consequence of the heating of the air over the plains, and recommends the investigation of the laws of diurnal fluctuation at considerable altitudes by direct observation, to the attention of meteorologists; but he has omitted to take into consideration the effect of heating by solar radiation on the hills themselves, which must evidently depend on the character of their surface, and may entirely neutralise if even it does in some cases more than counteract the effect of the high temperature of the plains. At Hazareebaugh and at Shillong no such effects are observable as at Darjeeling.

The phenomenon has already engaged the attention of Colonel Strachey, and I am indebted to an unpublished writing of that gentleman for suggesting much of the above.

†Akyab, False Point, Cuttack, Saugor Island, Chittagong, Calcutta, Darjeeling and Roorkee.

Table II.—Monthly Means of Atmospheric Pressure for 1869.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·799		29·849	29·749		·100
February	29·760		29·816	29·705		·111
March	29·700		29·753	29·647		·106
April	29·653		29·699	29·607		·092
May	29·595		29·638	29·552		·086
June	29·547		29·575	29·519		·056
July	29 567		29·604	29·531		·073
August	29·587		29·628	29·546		·082
September	29·606		29·653	29·560		·093
October	29·626		29·680	29·572		·108
November	29·694		29·746	29·643		·103
December	29·680		29 733	22·628		·105

MADRAS.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·018		30·079	29·958		·121
February	29·958		30·020	29·896		·124
March	29·893		29·955	29·831		·124
April	29·808		29·870	29·746		·124
May	29·708		29·769	29·647		·122
June	29.643		29·683	29·604		·079
July	29·687		29·747	29·628		·119
August	29·721		29·780	29·663		·117
September	29·747		29·811	29·683		·128
October	29·804		29·865	29·743		·122
November	29·917		29·968	29·866		·102
December	29·919		29·991	29·886		·105

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·047	30·027	30·068	30·007	30·087	
February			Not recorded.			
March	29·898	29·872	29·954	29·857	29·910	
April	29·841	29·826	29·921	29·765	29·851	
May	29·766	29·749	29·815	29·717	29·783	·098
June	29·641	29·620	29·683	29·599	29·665	·084
July	29·685	29·652	29·725	29·637	29·728	·088
August	29·748	29·718	29·808	29·687	29·782	·121
September	29·789	29·777	29·836	29·724	29·822	·112
October	29·845	29·826	29·886	29·797	29·872	·089
November	29·974	29·966	30·007	29·927	29·998	·080
December						

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·093	30·069	30·149	30·046	30·110	·103
February	30·010	30·005	30·058	29·965	30·023	·093
March	29·954	29·955	29·997	29·913	29·951	·084
April	29·844	29·825	29·902	29·798	29·853	·104
May	29·744	29·732	29·808	29·684	29·755	·124
June	29·590	29·575	29·627	29·549	29·610	·078
July	29·607	29·566	29·647	29·574	29·643	·081
August	29·700	29·689	29·741	29·657	29·716	·084
September	29·729	29·707	29·765	29·704	29·741	·061
October	29·852	29·830	29·898	29·818	29·865	·080
November	30·042	30·034	30·091	29·999	30·047	·080
December	30·054	30·043	30·098	30·018	30·058	·080

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·119	30·110	30·176	30·051	30·139	
February	29·928	29·911	29·993	29·863	29·947	
March	29·848	29·839	29·912	29·771	29·872	
April	29·726	29·720	29·794	29·663	29·730	
May	29·629	29·613	29·691	29·558	29·657	·133
June	29·491	29·422	29·548	29·444	29·551	·107
July	29·544	29·508	29·590	29·492	29·589	·098
August	29·634	29·605	29·679	29·584	29·662	·095
September	29·651	29·603	29·705	29·601	29·696	·104
October	29·789	29·753	29·843	29·747	29·820	·096
November	29·983	29·965	30·041	29·925	30·004	·116
December	29·971	29·953	30·035	29·908	29·988	·127

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·079	30·047	30·141	30·036	30·094	·105
February	29·972	29·903	30·049	29·943	29·994	·146
March	29·893	29·865	29·941	29·849	29·900	·092
April	29·794	29·780	29·853	29·740	29·803	·113
May	29·701	29·687	29·752	29·641	29·726	·111
June	29·542	29·526	29·576	29·500	29·568	·076
July	29·562	29·540	29·591	29·520	29·597	·077
August	29·662	29·642	29·712	29·609	29·687	·103
September	29·698	29·673	29·749	29·646	29·726	·103
October	29·822	29·800	29·886	29·779	29·825	·107
November	30·016	29·999	30·077	29·962	30·026	·115
December	30·013	29·987	30·078	29·956	30·031	·122

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·957	29·930	30·013	29·884	30·004	
February	29·869	29·841	29·922	29·832	29·883	
March	29·782	29·773	29·843	29·736	29·777	
April	29·711	29·683	29·776	29·660	29·724	
May	29·632	29·615	29·688	29·583	29·642	·105
June	29·496	29·474	29·536	29·446	29·529	·090
July	29·527	29·512	29·566	29·469	29·563	·097
August	29·619	29·600	29·688	29·548	29·642	·140
September	29·634	29·593	29·695	29·577	29·672	·118
October	29·725	29·681	29·780	29·681	29·761	·099
November	29·898	29·904	29·945	29·841	29·902	·104
December	29·897	29·894	29·940	29·840	29·915	·100

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·056	30·028	30·132	29·998	30·068	·134
February	29·958	29·923	30·031	29·907	29·974	·124
March	29·872	29·842	29·946	29·817	29·883	·129
April	29·756	29·734	29·828	29·693	29·770	·135
May	29·662	29·643	29·721	29·601	29·684	·120
June	29·513	29·499	29·548	29·462	29·546	·086
July	29·547	29·529	29·588	29·494	29·578	·094
August	29·647	29·627	29·697	29·590	29·676	·107
September	29·690	29·668	29·747	29·629	29·718	·118
October	29·820	29·790	29·882	29·771	29·838	·111
November	29·998	29·975	30·065	29·945	30·009	·120
December	29·996	29·969	30·069	29·940	30·009	·129

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·037	30·018	30·100	29·979	30·053	·121
February	29·948	29·931	30·008	29·890	29·966	·118
March	29·888	29·872	29·951	29·820	29·909	·131
April	29·744	29·718	29·813	29·670	29·774	·143
May	29·653	29·634	29·714	29·590	29·674	·124
June	29·506	29·489	29·541	29·452	29·542	·090
July	29·539	29·507	29·583	29·488	29·578	·095
August	29·636	29·614	29·688	29·577	29·668	·111
September	29·686	29·663	29·739	29·628	29·716	·111
October	29·809	29·780	29·870	29·758	29·831	·112
November	29·977	29·954	30·036	29·926	29·993	·110
December	29·977	29·956	30·039	29·919	29·994	·120

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·045	30·015	30·095	29·983	30·079	
February	29·927	29·906	29·988	29·866	29·948	
March	29·839	29·824	29·908	29·777	29·848	
April	29·738	29·725	29·802	29·671	29·755	
May	29·668	29·642	29·730	29·614	29·686	·116
June	29·531	29·516	29·571	29·475	29·563	·096
July	29·565	29·553	29·604	29·508	29·596	·096
August	29·648	29·638	29·695	29·582	29·677	·113
September	29·703	29·687	29·759	29·632	29·735	·127
October	29·813	29·794	29·869	29·754	29·836	·115
November	29·971	29·954	30·032	29·916	29·982	·116
December	29·971	29·949	30·037	29·917	29·984	·120

CACHAR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February						
March						
April						
May	29·677*		29·737	29·617		·120
June	29·519	29·509	29·578	29·452	29·540	·126
July	29·556	29·556	29·602	29·482	29·585	·120
August	29·623	29·605	29·689	29·561	29·640	·128
September	29·686	29·664	29·756	29·613	29·711	·143
October	29·782	29·766	29·848	29·712	29·805	·136
November	29·954	29·935	30·028	29·890	29·964	·138
December	29·944	29·925	30·005	29·890	29·959	·115

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	28·012	27·993	28·073	27·962	28·023	·111
February	27·929	27·910	27·985	27·873	27·950	·112
March	27·867	27·842	27·927	27·809	27·892	·118
April	27·764	27·757	27·810	27·717	27·774	·093
May	27·652	27·644	27·695	27·603	27·669	·092
June	27·537	27·527	27·573	27·494	27·557	·079
July	27·551	27·532	27·586	27·509	27·576	·077
August	27·653	27·638	27·694	27·602	27·678	·092
September	27·697	27·674	27·768	27·632	27·715	·136
October	27·824	27·806	27·867	27·773	27·850	·094
November	27·979	27·958	28·031	27·934	27·994	·097
December	27·959	27·933	28·011	27·918	27·977	·093

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·012	29·991	30·086	29·951	30·021	·135
February	29·898	29·881	29·971	29·828	29·915	·143
March	29·806	29·784	29·887	29·738	29·816	·149
April	? 29·629	? 29·626	? 29·704	? 29·550	? 29·638	·154
May	? 29·459	? 29·462	? 29·520	? 29·388	? 29·469	·132
June	? 29·315	? 29·300	? 29·360	? 29·274	? 29·327	·086
July	? 29·423	? 29·418	? 29·464	? 29·368	? 29·442	·096
August	29·586	29·573	29·644	29·522	29·605	·122
September	29·627	29·611	29·693	29·553	29·652	·140
October	29·760	29·741	29·824	29·701	29·776	·123
November	29·930	29·912	29·998	29·871	29·941	·127
December	29·928	29·908	29·998	29·869	29·939	·129

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·883	29·859	29·955	29·833	29·887	·122
February	29·767	29·753	29·831	29·713	29·771	·118
March	29·672	29·650	29·741	29·623	29·676	·118
April	29·541	29·526	29·610	29·478	29·552	·132
May	29·429	29·421	29·488	29·364	29·443	·124
June	29·312	29·295	29·361	29·264	29·330	·097
July	29·348	29·335	29·390	29·296	29·373	·094
August	29·445	29·433	29·495	29·392	29·462	·103
September	29·500	29·489	29·557	29·437	29·523	·120
October	29·654	29·636	29·709	29·603	29·668	·106
November	29·853	29·830	29·917	29·804	29·861	·113
December	29·845	29·816	29·913	29·797	29·856	·116

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·921*		29·971	29·871		·100
February	29·807*		29·866	29·749		·117
March	29·713*		29·776	29·651		·125
April	Not recorded.					
May	Ditto.					
June	29·330	29·317	29·380	29·269	29·354	·111
July	29·374	29·367	29·417	29·307	29·405	·110
August	29·443	29·424	29·495	29·385	29·469	·110
September	29·491	29·493	29·542	29·411	29·521	·131
October	29·672	29·644	29·736	29·616	29·693	·120
November	29·858	29·835	29·921	29·805	29·871	·116
December	29·857	29·840	29·925	29·797	29·868	·128

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Range 10h.–16h.
January	23·380	23·357	23·422	23·350	23·392	·072
February	23·315	23·292	23·348	23·286	23·335	·062
March	23·313	23·280	23·356	23·288	23·328	·068
April	Not recorded.					
May	23·269	23·239	23·303	23·248	23·286	·055
June	23·203	23·139	23·242	23·191	23·241	·051
July	23·228	23·187	23·255	23·214	23·256	·041
August	23·265	23·236	23·294	23·247	23·285	·047
September	23·319	23·292	23·346	23·297	23·342	·049
October	23·364	23·341	23·392	23·344	23·380	·048
November	23·429	23·407	23·456	23·410	23·446	·046
December	23·382	23·364	23·410	23·361	23·394	·049

GOALPARAH.

	Mean	4h.	10h.	16h.	22h.	Range.
January	29·673*		29·736	29·610		·126
February	29·530*		29·589	29·471		·118
March	29·438*		29·503	29·373		·130
April	29·355*		29·428	29·283		·145
May	29·298*		29·337	29·259		·078
June	29·205	29·194	29·256	29·157	29·214	·099
July	29·230	29·218	29·276	29·182	29·246	·094
August	29·278	29·273	29·328	29·225	29·286	·103
September	29·343	29·346	29·397	29·277	29·353	·120
October	29·473	29 474	29·522	29·402	29·494	·120
November	29·631	29·635	29·673	29·564	29·654	·109
December	26·624	29·619	29·679	29·559	29·640	·120

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February						
March						
April						
May	25·113	25·104	25·151	25·079	25·121	·072
June	25·018	25·014	25·047	24·982	25·032	·065
July	25·030	25·027	25·060	24·986	25·049	·074
August	25·078	25·069	25·117	25·046	25·083	·071
September	25·133	25·126	25·174	25·100	25·135	·074
October	25·218	25·219	25·248	25·181	25·224	·067
November	25·324	25·321	25·357	25·285	25·334	·072
December	25·293	25·287	25·322	25·265	25·298	·057

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·847	29·825	29·910	29·805	29·848	·105
February	29·746	29·721	29·817	29·697	29·749	·120
March	29·662	29·638	29·723	29·617	29·663	·106
April	29·530	29·513	29·585	29·502	29·521	·083
May	29·373	29·369	29·431	29·319	29·374	·112
June	29·255	29·258	29·299	29·202	29·263	·097
July	29·302	29·285	29·333	29·283	29·309	·050
August	29·379	29·370	29·424	29·336	29·388	·088
September	29·425	29·411	29·485	29·367	29·438	·118
October	29·609	29·586	29·664	29·571	29·615	·093
November	29·809	29·796	29·870	29·763	29·809	·107
December	29·798	29·780	29·858	29·757	29·798	·101

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·146	29·125	29·202	29·112	29·147	·090
February	29·071	29·046	29·116	29·046	29·079	·070
March	28·996	28·968	29·043	28·970	29·003	·075
April	28·868	28·848	28·917	28·832	28·874	·085
May	28·704	28·700	28·758	28·661	28·700	·097
June	28·578	28·589	28·633	28·532	28·559	·101
July	28·641	28·639	28·685	28·607	28·636	·078
August	28·710	28·700	28·759	28·669	28·712	·090
September	28·784	28·773	28·846	28·736	28·781	·110
October	28·942	28·924	28·990	28·908	28·949	·082
November	29·115	29·086	29·177	29·084	29·114	·093
December	29 110	29·079	29·161	29·084	29·115	·082

Table III.—Barometric Monthly Means for 1869, reduced to Sea level.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair ...	29·991*	29·985*	29·923*	29·875*	29·817*	29·770*	29·789*	29·810*	29·829*	29·850*	29·918*	29·904*	29·871
Madras ...	30·048*	29·988*	29·923*	29·838*	29·733*	29·673*	29·717*	29·751*	29·777*	29·843*	29·947*	29·949*	·873
Akyab ...	30·063	?	29·914	29·856	29·782	29·656	29·701	29·724	29·804	29·861	29·990	29·985	
False Point ...	30·113	30·031	29·973	29·863	29·763	29·609	29·626	29·719	29 748	29·871	30·061	30·074	·854
Cuttack ...	30·203	30·012	29·931	29·808	29·710	29·572	29·626	29·716	29·733	29·872	30·067	30·055	·909
Chittagong ...	30·071	29·982	29·894	29·822	29·742	29·601	29·638	29·731	29·745	29·837	30·012	30·011	·840
Saugor Island ...	30·085	29·978	29·899	29·800	29·707	29·548	29·566	29·668	29·704	29·828	30·022	30·019	·817
Calcutta ...	30·075	29·977	29·891	29·775	29·680	29·531	29·566	29·666	29·708	29·839	30·017	30·015	·811
Hazareebaugh ...	30·071	29·971	29·860	29·723	29·588	29·481	29·527	29·624	29·677	22·834	30·033	30·025	·794
Jessore ...	30·058	29·964	29·904	29·759	29·669	29·521	29.554	29·651	29·701	29·825	29·992	29·998	·799
Berhampore ...	30·092	29·987	29·889	29·770?	29·665?	29·517?	29·562?	29·668	29·709	29·843	30·014	30·013	·779
Dacca ...	30·082	29·964	29·875	29·774	29·703	29·566	29·601	29·684	29·739	29·849	30·008	30·008	·821
Goalparah ...	30·079*	29·933*	29·837*	29·750*	29·693*	29·597	29·620	29·669	29·735	29·869	30·031	30·028	·814
Cachar ...	?	?	?	?	29·752*	29·594	29·630	29·698	29·761	29·857	30·031	30·022	
Monghyr ...	30·081*	29·965*	29·868*	?	?	29·482	29·527	29·596	29·644	29·824	30·015	30·016	
Patna ...	30·065	29·947	29·850	29·713	29·601	29·494	29·522	29·619	29·675	29·831	30·034	30·027	·781
Benares ...	30·111	30·009	29·920	29·783	29·625	29·505	29·567	29·641	29·688	29·876	30·087	30·075	·824
Roorkee ...	30·109	30·044	29·934	29·752	29·560	29·362	29·510	29·581	29·663	29·840	30·066	30·071	·791
Darjeeling ...	30·099	29·974	29·846	?	29·651	29·544	29·559	29·612	29·702	29·844	30·048	30·062	
Shillong ...	?	?	?	?	29·679	29·554	29·567	29·632	29·715	29·855	30·064	30·067	

The atmospheric pressure in Bengal was, on the whole, slightly (about 0·01) lower during the past year than in 1868. The fact, however, taken by itself is barren of conclusion, since atmospheric movements are determined not by the absolute pressure but by the differences of pressure in adjoining regions, and these differences are in opposite directions in the two principal seasons of the year. It is probable that the strength of the monsoons in different years will hereafter be found to vary with the amount of difference that prevails on or near the limits of the region over which it blows. But Bengal is but a small tract situated at a distance from either of these limits, and the pressures in Central Asia [or Central India] on the one hand, and to the south of the Equator on the other, are not ascertainable at present.

The distribution of relative pressures within our limits is, however, an important object of enquiry, notwithstanding its subordinate character; since, as I have elsewhere shown, the local character of the S. W. monsoon, and probably that of the N. E. monsoon also, is greatly affected by its variations in different years. As far as the observations of two complete calendar years admit of general conclusions, it would seem that the semi-annual redistribution of atmospheric pressure, at the change of the monsoons, occurs in the month of March or April and October; and that the local and apparently insignificant irregularities, which remain outstanding after the confusion of the change, are frequently persistent throughout the following monsoon, becoming intensified as the season advances, and conferring on each season its own distinctive character. Much as, to borrow a simile from the sister science geology, the small depressions in an up-heaved sea bottom, being the receptacles of the first drainage waters, are gradually deepened thereby, and eventually as river valleys become principal physical features of a new continent.

The area here treated of is too small, and the period discussed too short, to allow of more than a probable guess of the chief normal barometric features of the monsoons on the Indian Peninsula, but there is much reason to believe that this triangular mass of land, being alternately heated and cooled beyond the seas which enclose it on two sides, while on the north it is in a great measure cut off from Central Asia by the Himalayan Chain, acts on a smaller scale locally and independently much as Central Asia does on the larger scale; and that a subordinate focus of alternately low and high pressure exists over its interior, and determines the course of the local monsoons. That such is the case may be inferred from the known distribution of temperature as laid down in Dove's Charts, and in those more recently drawn up by Messrs. Schlagintweit. It may be inferred further from the direction of the winds during the two monsoons, which, blowing towards or somewhat around the place of minimum pressure in the S. W. monsoon, are westerly or south-westerly in Bombay, south-easterly in Bengal, while in the N. E. monsoon they are north-westerly in Bengal, and northerly in Bombay,* *i. e.*, diverging from the place of greatest pressure. Lastly, direct if partial evidence of the fact is afforded by the course of the isobaric lines in the area here treated of. During both monsoons the course of these lines is from N. E. to S. W. across the Bay of Bengal; that is to say,

* Bombay, it should be remarked, being situated on the coast, and in a manner cut off from the high ground of the Deccan by the mural range of the Western Ghâts, offers but an imperfect criterion of the mean direction of the winds of Western India.

generally conformable to the outline of the Peninsula: but while in the N. E. monsoon the higher pressures are to the N. W., in the S. W. monsoon they lie to the S. E. [*see Plates I. to IV.*] It is observable in the preceding table, as well as in the similar table in the report for 1868, that in the N. E. monsoon Port Blair always exhibits a lower mean pressure than Madras or Akyab, while in the S. W. monsoon it is always higher than either of these stations; moreover, there is but a small and inconstant difference between the two last named stations, at any season of the year, their relative positions being to N. E. and S. W. of each other on opposite sides of the Bay.

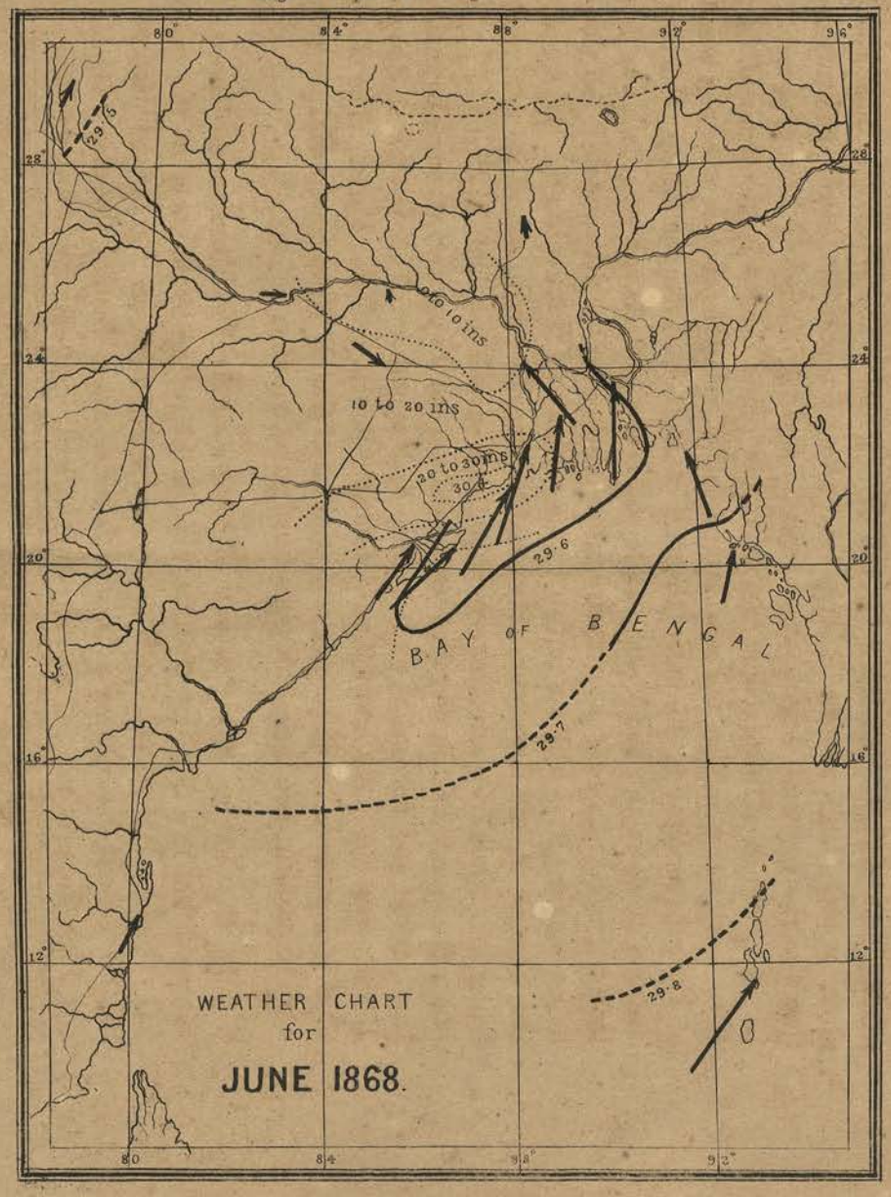
It is probable, however, that subordinate to this general system of normal pressures, local irregularities and variations occur in all seasons. Such as are brought to light by a comparison of the S. W. monsoons of 1868 and 1869, and of the intervening N. E monsoon, with the partial seasons at the beginning and end of the two years' period, may be here briefly noticed.

The S. W. monsoons both of 1868 and 1869 were characterised by barometric irregularities in Bengal, of unusual importance, owing to their effects on the rain-fall of Bengal and the N. W. Provinces. These have been described at length elsewhere,* and a brief notice of their principal features will suffice for this place.

In 1868, a slight local depression appeared in the N. W. corner of the Bay, as early as the month of April, when False Point and Saugor Island showed lower mean readings than any of the stations around. [See Report for 1868, p. 27.] In May this depression was somewhat more marked but less restricted, since either it extended to the N. W. over Hazareebaugh and Monghyr, or else there was an independent area of somewhat lower pressure in that direction, separated from the former by a ridge of slightly higher pressure. In the absence of intervening stations this point cannot be determined. In June there was a sudden and considerable fall of relative pressure over the whole of Bengal, amounting to more that 0·2 of an inch at Saugor Island, Calcutta, Jessore, Berhampore and Dacca, while at Madras and Akyab the fall was less than 0·1 inch. In July the pressure rose slightly over the delta, while it fell along a line running from False Point to Patna, chiefly at Hazareebaugh. In August the Saugor Island depression was greatly intensified and reached its minimum, being surrounded by a comparatively high barometic gradient. [*Plate II.*] In the subsequent months this depression maintained its position, though becoming less marked and influential, and even up to November the barometer at Saugor Island was decidedly lower than either at Calcutta or False Point. The effects of this depression on the winds and rain-fall of the S. W. monsoon of 1868 were very important, but these will be noticed subsequently.

In the corresponding season of 1869 a similar local barometric depression occurred, but in a different position, *viz.*, in the region to the west of the delta. Like the former it first became apparent in April, when Patna and Hazareebaught showed lower mean pressures than the other Bengal stations. In May and June the pressure fell rapidly, and the local depression was intensified, and

* Journal, Asiatic Society, Bengal, Part II, No. 2, 1870.
† Also probably Monghyr.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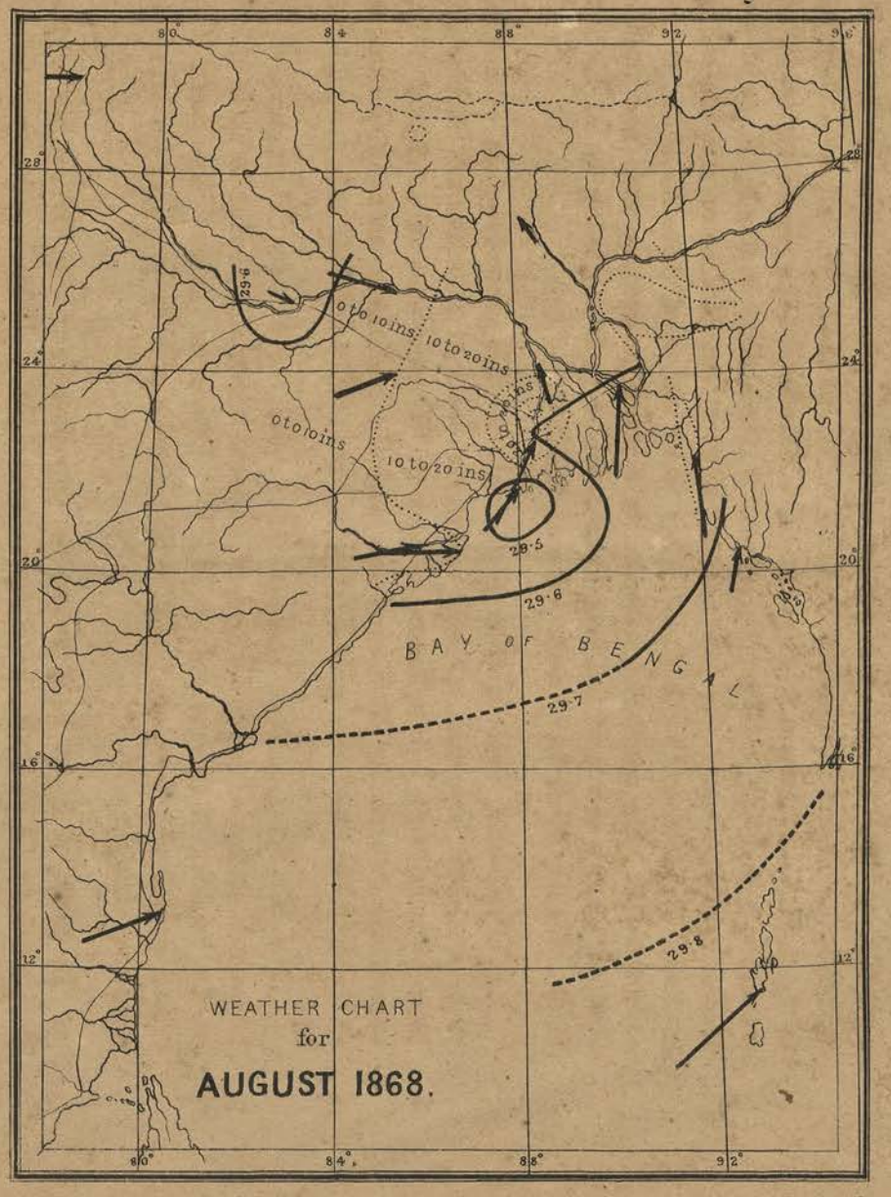
29·8
BAY OF BENGAL
WEATHER CHART
for
JUNE 1868.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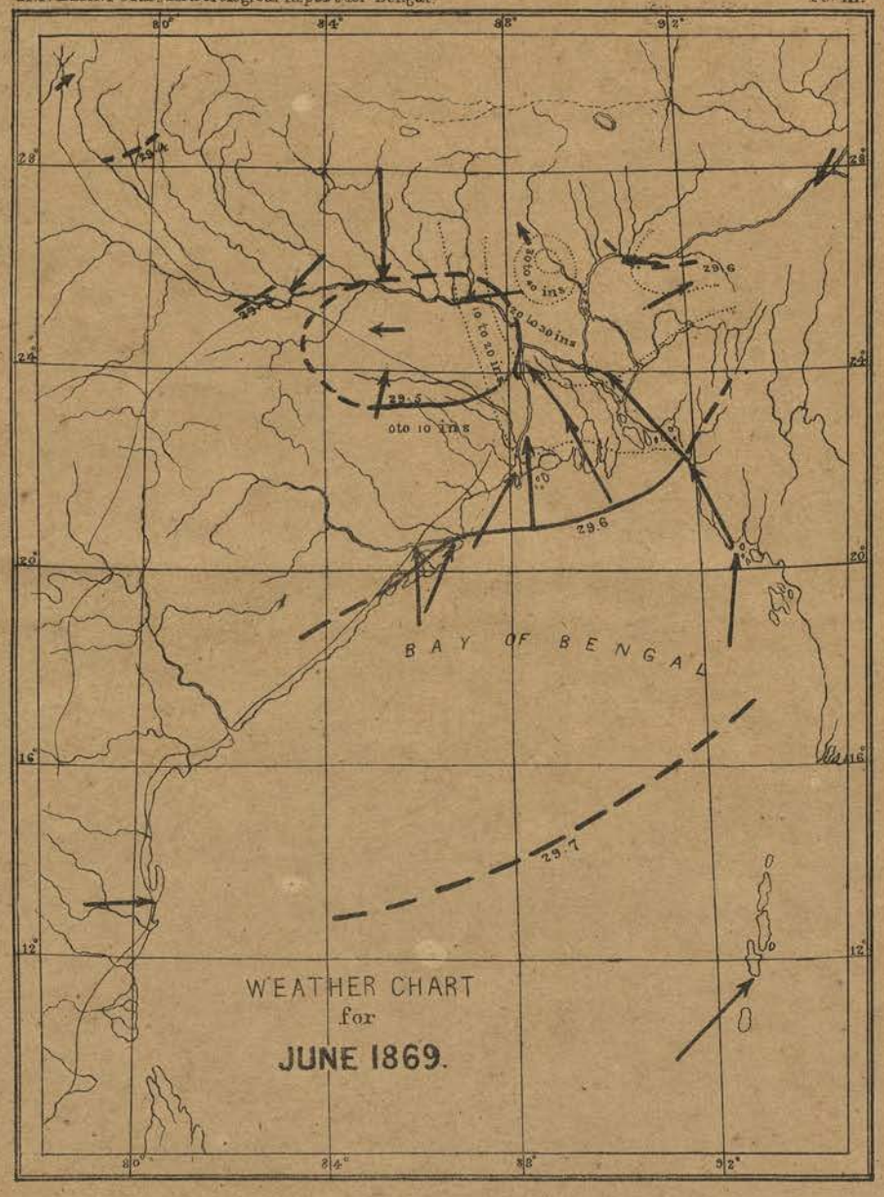
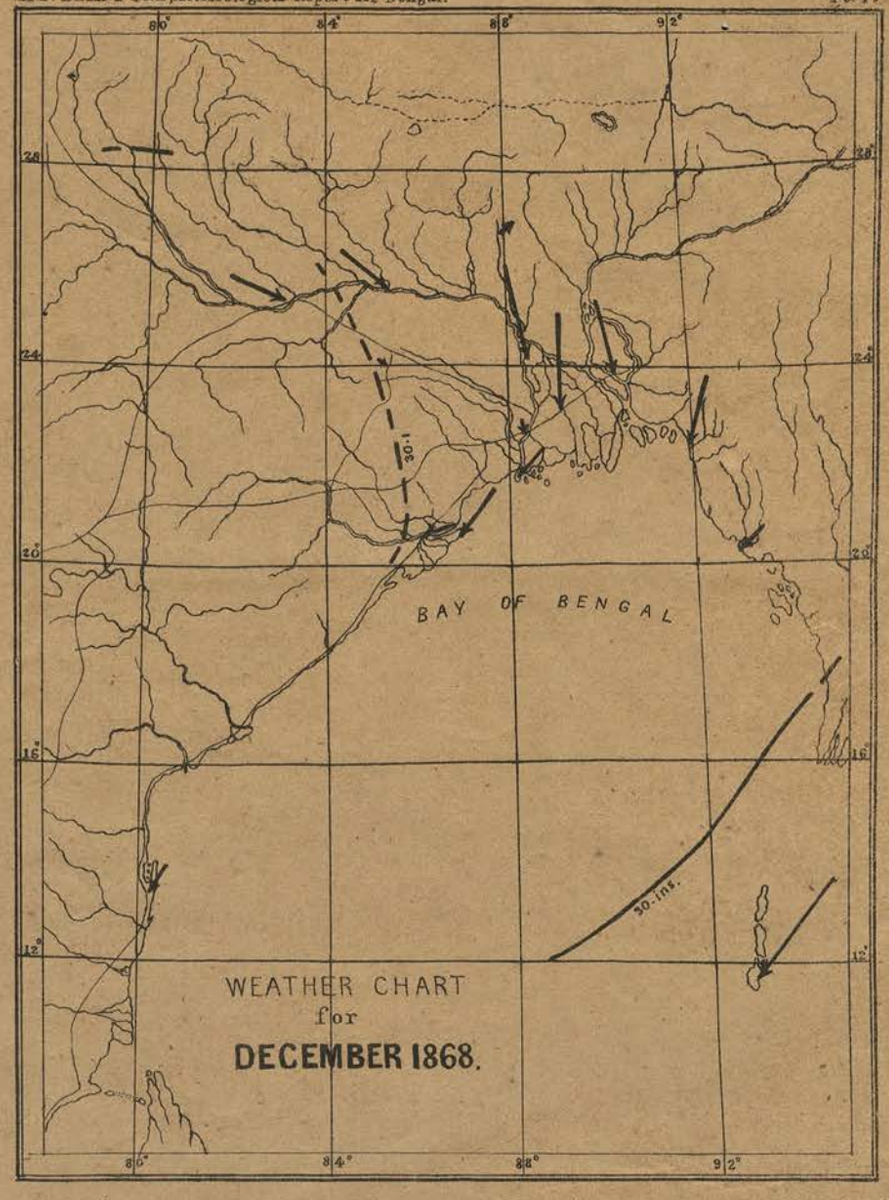
BAY OF BENGAL
WEATHER CHART
for
AUGUST 1868.



WEATHER CHART
for
JUNE 1869.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reached its minimum in the latter month. [*See Table III. and Plate III.*] In subsequent months the pressure increased at Hazareebaugh more rapidly than at Monghyr, and in September the mean reading at Monghyr was 0·03 lower than at either of the other stations. As in the previous year the local depression deflected the monsoon winds, and seriously affected the distribution of the rain-fall, while it appears to have influenced in a measure, the course, though not the occurrence, of the Cyclones which passed over Bengal in May, June and October.

On the general redistribution of pressures in October 1868, two areas of relatively high pressure appeared, one on each side of the delta, enclosing between them a region of low pressure, which comprised the Bay of Bengal, the Ganges Delta, and the Bengal portion of the Gangetic plain. In November and December the pressure increased relatively over the hill country to the westward, while it diminished on the side of Tipperah and Arracan; and in January the former reached its maximum, when at Cuttack the barometer ranged far above that of any other station, and at False Point it stood higher than at any other Bengal station, except Cuttack. In February this excess was maintained, but less in degree, and it disappeared with the redistribution of pressures in March. During the present season, 1869-70, there is a slight relative excess of pressure on both sides of the delta, chiefly, however, on the Hindostan side, with a trough of low pressure running up the middle of the delta. Up to the end of 1870, however, Cuttack showed no culminating pressure as in the former year,* nor was any such observable in the cold season of 1867-68.

Before quitting this subject I may remark incidentally on the effect of these local persistent irregularities in vitiating the determination of elevations by barometric readings. Their duration is such as sensibly to affect the mean pressure of the year at those stations at which they are most marked, and consequently, the comparison of a whole year's readings of two stations, even at a moderate distance, may yield very untrustworthy data for computing their difference of elevation, notwithstanding every ordinary precaution. Two examples of this will serve. The 1868 means of Cuttack and Saugor Island, only 160 miles apart would show a difference of elevation of not less than 205 feet, and the 1869 means one of 166 feet, the actual difference being only 74 feet. Again, the height of the Darjeeling observatory, which is known both by trigonometric measurement, and by a comparison of the barometric readings with several other stations at different periods, to be 6,952 feet, while that of Monghyr, ascertained by spirit-levelling from the sea-level, is 150 feet (difference 6,802 feet,) would appear to be only 6,749 feet above the latter, from the means of nine entire months' readings four times daily at both stations in 1869.† Yet these readings far exceed in number those generally available for the determination of mountain heights, and the stations are not more distant than such as are usually compared. It is, therefore, clear that it becomes of importance to such determinations that the general distribution of pressure for the period of comparison should be known and allowed for, not less in tropical than in temperate regions, or when this cannot be done, the comparison should, if possible, be made not with one only, but with several stations of known elevation lying in different directions.

* *Note, added 16th April* 1870.—This irregularity has since become marked, and appears to be unusually persistent, being in part the cause of the prevailing westerly winds and dry weather we have experienced hitherto.

† The omitted months being March, April and May. A comparison of the July pressures (124 simultaneous readings at both stations) would give a result 322 feet in error.

P. S.—A short time since I received from Dr. Foster, of Dholebagaun, near Nazeerah, in Upper Assam, an abstract of a very regularly kept register, giving, among other meteorological data, the mean results of his observations of an aneroid, taken daily at 8h., 16h. and 22h. Quite recently, Dr. Foster brought the instrument to Calcutta, and afforded me the opportunity of comparing it with the local standard. Applying the correction thus determined, and assuming the means of the hours of observation to be those of the day (which they are very nearly), the following are the monthly mean pressures at his station:—

January ...	29·39	May ...	29·05	September ...	29·21
February ...	·30	June ...	28·89	October ...	·35
March ...	·21	July ...	·91	November ...	·60
April ...	·13	August ...	29·09	December ...	·61

From a comparison of these means with those of Goalparah, the elevation of Dholebagaun would appear to be 575 feet, but for the reasons given above, this can at present be regarded as only an approximate determination. Accepting it, however, as a provisional datum, the above figures reduced to sea-level become—

January ...	29·995	May ...	29·630	September ...	29·788
February ...	·899	June ...	·466	October ...	·933
March ...	·802	July ...	·486	November ...	30·196
April ...	·715	August ...	·666	December ...	·200

These figures show an annual range on the means of the months of 0·734, or greater than that of any other station. In June, there would appear to have been a depression lower than that of Hazareebaugh and Monghyr, while in December, the pressure exceeded that of the highest station (Benares) by 0·125. As however the elevation of the station is known only from the barometric readings, all the figures may be equally too high or too low. In the latter case, the December excess would be increased by the correction; in the former, the June depression; and the station is too far distant from any other here given to allow of any correction being inferred from the gradation of the pressures around. In so far as the pressures and wind directions of Goalparah, Shillong and Cachar can be accepted as throwing any light on the subject, the reductions above given tally fairly with the facts; for in June the pressure at Shillong, the nearest station, was ·04 below either Cachar or Goalparah, and the wind was chiefly from the west, which would be its direction according to Buys Ballot's law, with a depression in Upper Assam. In December, Shillong was ·045 higher than Cachar, and ·056 higher than Goalparah, and at Goalparah there was a great excess of easterly,—at Shillong, a small excess of north-easterly elements.

While, therefore, the data are at present insufficient to admit of their being brought into direct comparison with those of other stations, they point to very important oscillations of pressure in Upper Assam; and if Dr. Foster should be enabled to continue his very valuable register, as I trust will be the case, another year or two will probably enable him to throw much light on the meteorology of Assam and the neighbouring regions.

Temperature of Air.

In the report for 1868 I described the precautions that had been taken to obtain trustworthy and comparable thermometric observations, and I stated that at all the stations, with the exception of Akyab, Chittagong, Dacca, Dar-

jeeling and Cuttack (to which should have been added False Point), thermometer sheds had been provided to ensure free exposure of the instruments. During the past year such sheds have been also provided at Dacca and Chittagong; at the former from the commencement of the year, at the latter from the 19th July 1869. Owing to various local circumstances, the instruments at the other stations have remained in their former position, having such exposure as can be obtained in a verandah or room freely open to the air. The result of this, as I have pointed out, is to reduce the range of daily temperature, without much affecting the mean. At all the other stations, including those established during the past year, except Shillong, the instruments have been exposed in thermometer sheds of uniform pattern. At Shillong the medical officer in charge, considering that a shed of this description would not resist the violent winds prevalent at the station, built a small masonry room for the thermometers. It is however very open, and is used for no other purpose than to receive the instruments. At this station, owing to the prevalence of cloud, the range of temperature is at all seasons comparatively small.

The registers for this year give for the most part the mean temperatures as derived from four equi-periodic observations daily. I am, therefore, enabled to institute a more complete comparison between these and the mean temperatures obtained from the mean of the 16h. and minimum readings than was possible with the data available for 1868. The comparison is of some importance, as bearing on the practicability of obtaining a knowledge of mean temperatures and data that shall be comparable *inter se*, from stations where the more complete registration is not feasible. As might have been anticipated, the results obtained from a comparison of the Calcutta registers, and given in my report for 1868, are found not to hold good in the case of stations situated in a very dry climate, where the diurnal range of the temperature is much greater, and possibly the form of the temperature curve in corresponding months somewhat different. Whether however the $\frac{4h.+10h.+16h.+22h}{4}$ or the $\frac{min.+16h}{2}$ mean most nearly represents the real mean temperature of the day, can be determined only by a direct comparison, for which the latter datum has yet to be ascertained, either by hourly observations or self-registering thermometers. The table for Calcutta, given at page 20 of the report for 1868, shows that for this station and year, the $\frac{min.+16h.}{2}$ gives the more accurate average result, since its mean error on the whole year is—0·02°, and the maximum error for any one month +0·7°, whereas the mean error of the former method is +0·3°, the maximum +0·5.° This last is, therefore, greater on the whole, but, as might be expected from the greater number of observations that affect it, less variable.

The mean difference of the results of the two methods for Calcutta, on the averages of two years is 0·26°; the greatest in any month 0. 7.° At Patna the mean difference in 1869 is 1·70°, the maximum (in April) 2·9°, the $\frac{min.+16h.}{2}$ mean being always the lower, and most so in the hot-weather months. At Roorkee, the difference is less than at Patna, the mean and maximum being 1·1° and 2·4°, respectively. At Berhampore, the mean difference is 0·18° only, the maximum 1·1°, and here and at Calcutta the $\frac{min.\times16h.}{2}$ mean is in a few cases the higher. As a general result, obtained from all stations compared, the difference is about 1°, the $\frac{min.\times16h.}{2}$ mean being the lower.

In the following tables the means obtained by this latter method are distinguished by an (*), as in the report for the previous year :—

Table IV.—Maximum, Minimum and Mean Monthly Temperature for 1869.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	81·2*		81·0	81·4		81·8	7·3	74·5	26-30th	83·0	13·0	9th	70·0
February ...	81·5*		80·9	82·1		82·7	10·5	72·2	28th	85·0	16·0	17-18th	69·0
March ...	85·2*		84·3	86·1		87·5	13·4	74·1	25th	92·0	21·0	15th	71·0
April ...	87·0*		86·8	87·2		90·0	13·4	76·6	8th	94·0	20·0	3-4th	74·0
May ...	85·2*		85·8	84·7		88·6	11·9	76·7	22nd	91·0	18·0	14-15th	73·0
June ...	82·9*		83·1	82·8		85·4	8·8	76·6	12th	90·0	17·0	21st	73·0
July ...	82·9*		82·5	83·4		84·6	9·1	75·5	31st	89·0	16·0	26th	73·0
August ...	82·9*		82·9	83·0		84·7	9·3	75·4	15th	88·0	16·0	27th	72·0
September	81·4*		81·6	81·2		83·8	8·9	74·9	16th	87·0	14·0	27th	73·0
October ...	81·8*		82·1	81·6		84·0	8·5	75·5	24th	87·0	14·0	31st	73·0
November...	81·2*		81·3	81·2		82·2	7·6	74·6	6th	85·0	15·0	18th	70·0
December...	81·1*		80·9	81·3		...	...	73·4	...	...	...	18th	68·0

	MADRAS.					FALSE POINT.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			82·0	81·5		73·3	68·3	74·3	77·2	73·7
February ...			84·8	84·5		75·9	71·2	77·5	79·5	75·4
March ...			87·2	85·9		80·3	76·6	82·6	83·3	79·4
April ...			90·8	87·9		84·9	82·7	86·3	86·4	84·3
May ...			95·6	91·1		87·9	86·5	88·7	88·9	87·5
June ...			92·6	94·2		87·5	86·3	88·1	88·4	87·5
July ...			91·1	90·8		84·8	83·7	85·5	85·7	84·5
August ...			87·5	88·8		85·9	84·9	86·6	86·8	85·6
September...			86·2	87·5		85·5	84·9	86·0	86·0	85·4
October ...			85·1	86·4		83·5	82·4	84·0	84·1	83·6
November...			81·1	80·8		76·0	72·6	77·0	79·0	75·5
December...			81·0	80·9		71·2	66·3	70·3	76·4	71·9

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ...	69·6	64·0	73·0	74·9	66·8	...	...	...	...	...	...	...	...
Feb. ...	...	...	...	...	...	...	...	...	...	...	...	...	...
March ..	80·3	75·5	81·8	84·8	79 2	88·9	17·8	71·1	19th	97·0	33·0	2nd	64·0
April ...	84·1	80·3	85·3	87·6	83·2	91·6	150	76·6	21st	100·5	36·5	4th	64·0
May ...	85·1	82·8	86·3	87·0	84·6	91·6	12·5	79·1	30-31st	94·0	18·0	11th	76·0
June ...	83·2	82·5	83·0	84·1	83·3	90·7	12·8	77·9	6th	93·0	18·0	14-17th	75·0
July ...	81·0	80·2	81·0	81·9	81·0	85·9	10·4	75·5	1-23rd	89·0	14·0	29-30th	75·0
August	81·8	80·1	81·5	83·5	82·4	87·6	10·5	77·1	17-19th	90·0	15·0	1-15th	75·0
Sept. ...	81·7	80·0	82·0	83·6	81·3	87·0	8·4	78·6	9th	90·0	13·4	6th	76·6
October	81·1	78·7	81·9	84·0	80·0	87·3	10·6	76 7	6th	91·0	20·5	31st	70·5
Novr....	76·7	72·9	76·9	81·8	75·3	?	?	70·1	?	?	?	30th	65·5
Decr....	72·7	67·7	72·6	79·1	71·5	?	?	64·6	?	?	?	18th	58·3

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ...	72·2	64·8	74·6	79·1	70·5	84·0	21·1	62·9	31st	85·0	34·1	7th	50·9
Feb. ...	75·7	69·7	77·5	82·7	73·2	87·2	19·9	67·3	28th	92·0	31·5	12th	60·5
March	81·3	75·5	83·7	87·4	78·9	92·0	22·7	69·3	29th	97·0	29·5	10-11th	67·5
April...	87·7	81·6	90·7	93·7	85·0	98·2	16·8	81·4	24th	99·0	22·5	26th	76·5
May ...	91·1	85·5	93·4	97·1	88·4	100·1	15·0	85·1	30th	102 0	23·0	22nd	79·0
June...	87·9	83·7	90·4	92·2	85·6	108·7?	26·0	82·7	5-30th	110·0?	33·5	13th	76·5
July ...	83·9	80·7	86·1	86 2	82·8	?	...	80·2	...	?	...	24th	77·6
August	84·9	81·8	87·2	87·3	83·3	...	...	81·1	...	...	...	30th	78·6
Sept....	83·7	80·8	85·3	86·1	82·6	...	...	79·5	...	...	...	23rd	76·0
October	80·9	78·1	82·6	83·4	79·8	...	...	75·9	...	...	...	31st	71·5
Novr....	73·1	65·9	76·0	79·4	71·2	...	...	...	...	...	...	...	...
Decr....	70·1	62·5	72·7	77·7	67·4	...	...	61·8	...	...	...	8th	55·7

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January	71·3	66·7	71·1	77·8	69·8	...	...	...	...	...	...	...	...
Feb. ...	74·4	72·0	74·3	78·3	73·1	79·9	10·7	69·2	24th	88·3	31·8	8th	56·5
March	81·3	78·2	82·0	84·6	80·3	85·6	11·0	74·6	26th	90·3	24·8	10th	65·5
April..	86·0	83·6	87·2	88·6	84·6	89 3	7·7	81·6	10th	93·8	16·0	27th	77·8
May ...	88·0	85·1	88·9	89·6	88·5	89·5?	7·6	81·9	15th	92·7	16·7	22-23rd	76·0
June...	88·2	86·2	89·1	90·2	87·3	90·1?	6·6	83·5	13th	93·6	17·3	9th	76·3
July ...	85·6	83·6	85·9	87·7	85·2	87·5?	6·2	81·3	3rd	90·6	15·6	26th	75·0
August	85·6	83·8	86·2	87·7	84·8	87·9	6·8	81·1	18th	90·6	12·9	2nd	77·7
Sept....	84·3	82·3	85·1	86·1	84·0	86·6	7·4	79·2	21st	88·7	12·2	11th	76·5
October	81·5	77·7	83·6	84·9	79·9	85·1	9·9	75·2	5th	88·5	22·0	30th	66·5
Nov....	74·0	67·6	76·5	80·6	71·3	81·7	16·4	65·3	1st	84·8	26·9	23rd	57·9
Dec. ...	69·7	63·2	71·6	77·8	66·4	78·4	18·9	59·5	1st	81·6	28·8	31st	52·8

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	68·5	63·1	69·4	73·9	67·8								
February ...	72·3	68·1	73·3	76·1	72·0								
March ...	80·5	76·2	82·2	84·2	79·5								
April ...	83·5	79·7	85·5	86·8	82·3								
May ...	84·5	81·6	85·7	86·8	83·9			79·8				3rd	75·9
June ...	84·0	81·8	85·1	86·0	83·1			80·5				29th	76·8
July ...	82·2	79·5	83·9	84·6	81·1			78·0				23rd	76·5
August ...	82·3	78·3	84·1	86·6	80·2			76·9				26th	75·0
September	83·0	80·9	85·7	84·7	80·8			76·3				7th	73·8
October ...	81·6	77·4	86·3	84·6	78·4			71·6				27th	63·2
November	73·7	64·4	79·7	79·4	70·8			61·7				23rd	54·7
December...	68·9	58 2	75·0	75·9	66·5			56·3				28th	52·6

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	69·8	63·9	70·1	77·2	68·1	78·1	15·8	62·3	24th	85·8	29·5	10th	56·3
February ...	73·7	68·3	73·6	81·2	71·7	81·8	14·8	67·0	25th	91·5	34·0	11th	57 5
March ...	80 3	74·6	81·0	87·3	78·3	88·2	14·8	73·4	31st	94·5	28·7	10th	65 8
April ...	86·7	80·5	88·4	94·2	83·7	95·2	15·6	79·6	6th	99·5	24·5	16th	75·0
May ...	87·1	82·1	89·7	93·3	83·5	94·7	14·6	80·1	12th	100·0	24·5	22nd	75·5
June ...	86·4	82·9	87·9	90·1	84·6	91·8	9·6	82·2	5th	98·0	20·5	28th	77·5
July ...	83·9	81·3	85·0	86·5	82·9	88·4	7·8	80·6	28th	92·7	15·2	21st	77·5
August ...	84·5	81·7	86·1	87 3	832	89·1	7·9	81·2	18th	93·4	16·1	12th	77·3
September	83·2	80·4	85·4	85·3	81·8	87·9	8·0	79·9	21st	92·0	14·0	24th	78·0
October ...	81·4	77·9	83·5	84·6	79·7	86·9	9·6	77·3	3rd	90·6	19·6	29th	71·0
November	73·6	67·7	75·7	79·6	71·5	81·2	14·7	66·5	25th	85·0	23·0	22nd	62·0
December	68·7	62·5	70·2	76·1	66·2	77·6	16·4	61·2	1st	79·5	22·7	30th	56·8

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	67·6	55·6	75·0	79 2	60·7	80·6	27·4	53 2	24th	89·0	46·0	1-2nd	43·0
February ...	72·2	62·1	78·5	82·8	65·7	84·6	24·9	59·7	26th	97·7	47·7	5th	50·0
March ...	79 9	70 9	84·7	88·7	75·6	91 8	23·9	67·9	31st	100·5	38·7	10th	61·8
April ...	86 3	77·4	91·9	94·7	81·4	98·7	24·2	74·5	6th	106 2	39·0	4th	67·2
May ...	86·5	80·2	90·5	92·8	82·8	96·1	17·7	78·4	11th	103·5	36·6	17th	66·9
June ...	85·7	81·3	88·3	89·8	837	91·8	11·8	80·0	4th	97·7	22·7	9th	75·0
July ...	83 4	80·1	86·1	85 6	82·1	89·1	9·7	79 4	29th	93·4	16·3	14th	77·1
August ...	84·4	80 4	87·4	88·1	82·0	91·2	11·5	79·7	14th	94·6	16·6	7-8th	78·0
September	83·0	79 5	86·9	85·0	80·6	89·4	11·0	78·4	1st	92·3	9·3	24th	83 0
October ...	79·6	74·1	84 8	84·1	75·7	87·9	14·9	73·0	5th	91·6	30·8	31st	60·8
November	69·3	58·9	78·0	78·6	61·9	82·8	24·7	58·1	1st	86 9	34·9	22nd	52·0
December	64 8	52·9	72·6	76·2	57·5	79·1	27·1	52·0	1st	82 2	38·2	30th	44·0

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	66·8	57·9	73·4	73·5	62·6	78·6	22·9	55·7	24th	84·0	35·5	3rd	48·5
February ...	71·5	63·6	76·5	79·1	67·1	83·4	21·3	62·1	26th	93·6	42·1	11th	51·5
March ...	78·7	70·8	84·1	85·9	74·0	89·7	20·8	68·9	31st	98·7	34·2	11th	64·5
April ...	83·1	76·3	88·0	88·2	79·8	95·1	22·2	72·9	6th	104·0	39·0	15th	65·0
May ...	84·0	79·7	86·6	88·4	81·3	91·9	15·7	76·2	15th	96·0	30·6	14th	65·4
June ...	84·4	80·7	86·6	87·4	83·0	90·0	11·2	78·8	8th	95·8	21·9	16th	73·9
July ...	83·5	80·8	85·2	86·1	82·2	88·8	9·9	78·9	27th	91·3	16·2	12th	75·1
August ...	84·2	81·1	86·1	87·9	82·7	89·9	10·8	79·1	18th	92·9	18·1	7th	74·8
September	82·7	80·1	84·0	85·4	81·3	88·0	10·8	77·2	2nd	93·0	20·6	30th	72·4
October ...	80·3	76·0	83·8	84·3	77·4	88·1	15·3	72·8	6th	93·0	29·5	30th	63·5
November	72·1	64·1	78·2	78·4	67·7	82·8	22·3	60·5	1st	86·9	31·8	23rd	55·1
December	67·6	59·3	72·9	74·9	63·3	78·8	23·8	55·0	10th	85·7	34·2	30th	51·5

CACHAR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	...	...	...	...	...	...			...	...			
February ...	...	...	...	...	...	...			...	...			
March ...	...	...	...	...	...	...			...	...			
April ...	...	...	...	...	...	...			...	...			
May ...	...	...	79·4	82·4	...	85·3			11th	94·0			
June ...	...	...	84·0	86·8	...	89·8			9th	96·0			
July ...	83·3	80·0	84·6	86·9	81·7	90·0			20th	95·0			
August ...	81·7	78·4	83·0	84·8	80·7	88·7			23rd	92·0			
September	81·2	77·5	82·2	85·6	79·7	88·5			10th	93·0			
October ...	79·6	74·0	81·4	86·5	76·6	87·4			10th	93·0			
November	70·6	61·7	73·5	81·2	66·2	82·4			26th	84·0			
December	65·4	55·5	66·7	77·3	62·2	78·6			24th	81·0			

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	62·7	54·1	65·9	71·6	59·4	74·8	23·5	51·3	24th	82·0	38·0	2nd	44·0
February ...	67·1	58·6	71·7	76·9	64·1	80·1	24·0	56·1	23rd	91·0	45·0	5th	46·0
March ...	73·7	64·2	77·3	83·0	70·3	86·5	24·4	62·1	31st	94·0	39·0	10th	55·0
April ...	85·6	75·3	89·7	95·2	82·3	99·0	26·5	72·5	23rd	107·0	40·0	24th	67·0
May ...	88·6	80·0	90·7	98·5	85·4	103·9	26·2	77·7	29th	110·0	38·0	24th	72·0
June ...	83·8	78·1	87·0	88·9	81·4	93·9	17·1	76·8	1st	103·0	32·0	19th	71·0
July ...	77·8	75·0	79·2	80·6	76·7	83·4	10·0	73·4	11th	89·0	18·0	21st	71·0
August ...	79·3	75·6	81·4	83·1	77·3	85·7	11·7	74·0	22nd	88·0	15·0	28-31st	73·0
September	77·5	74·5	79·5	80·4	75·9	83·8	11·1	72·7	6th	87·0	17·0	30th	70·0
October ...	72·6	67·2	75·6	78·0	69·9	80·1	14·5	65·6	2-6th	84·0	25·0	25th	59·0
November	64·8	57·3	69·3	71·7	61·0	74·4	18·7	55·7	1st	78·0	26·0	21st	52·0
December...	61·4	53·4	65·4	69·4	57·5	72·1	20·8	51·3	11th	76·0	32·0	31st	44·0

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	65·8	57·6	66·6	75·8	63·5	76·1	18·3	57·8	29th	81·5	30·5	2-3rd	51·0
February ...	71·3	63·2	72·6	81·4	68·9	82·0	19·8	62·2	22nd	92·8	37·8	6th	55·0
March ...	79·9	72·6	81·3	88·8	77·2	90·6	19·4	71·2	28th	104·0	39·2	3rd	64·8
April ...	89·2	81·5	90·1	99·4	86·1	101·1	23·3	77·8	30th	105·0	33·7	12th	71·3
May ...	90·0	83·3	91·1	98·5	87·1	100·2	16·6	83·6?	12th	108·0	36·0	22nd	72·0
June ...	87·2	83·9	88·3	90·9	85·8	96·4	13·7	82·7	4th	101·0	26·0	15th	75·0
July ...	85·2	81·6	87·4	88·6	83·2	91·5	10·7	80·8	28th	96·5	20·0	24th	76·5
August ...	85·8	82·1	88·5	89·1	83·8	93·4	12·2	81·2	29th	96·0	16·5	31st	79·5
September	83·9	80·9	86·2	85·9	82·7	90·3	10·5	79·8	2nd	95·0	21·0	30th	74·0
October ...	81·9	77·0	84·7	86·4	79·6	88·8	13·0	75·8	6th	94·5	27·0	31st	67·0
November	72·6	64·3	76·5	80·7	69·1	81·9	19·1	62·8	1st	87·0	31·0	29th	56·0
December	67·6	58·6	71·0	77·0	63·8	78·1	21·5	56·6	21st	81·5	32·5	31st	49·0

GYA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...													
February...													
March ...													
April ...													
May ...													
June ...	92·0	86·5	94·3	97·1	90·1	102·1	18·4	83·7	4th	112·0	41·0	29th	71·0
July ...	83·6	80·8	86·0	86·7	81·2	91·4	13·5	77·9	26th	95·0	22·0	29th	73·0
August ...	84·4	80·3	86·7	87·6	82·9	91·9	13·4	78·5	27th	96·0	10·0	6th	86·0
September..	83·5	79·8	86·0	86·0	82·4	90·6	13·7	76·9	21st	95·0	21·0	30th	74·0
October ...	78·8	71·7	81·7	85·0	76·9	86·9	18·0	68·9	4th	92·0	34·0	31st	58·0
November..	69·1	57·0	73·7	79·5	66·4	80·9	26·9	54·0	1-2nd	86·0	37·0	27th	49·0
December...	63·6	52·9	67·9	74·4	59·5	77·4	26·6	50·8	25th	80·0	36·0	31st	44·0

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	62·1	49·2	67·6	76·5	55·4	77·1	32·1	45·0	21-22nd	82·3	45·4	3-4th	36·9
February...	67·9	55·3	73·5	80·8	62·1	84·4	33·5	50·9	25th	94·3	51·4	12th	42·9
March ...	76·9	64·3	82·9	88·9	71·8	91·8	31·4	60·4	31st	98·3	47·2	9th	51·1
April ...	88·7	75·3	95·1	100·8	83·9	104·1	33·3	70·8	23rd	111·3	50·5	11th	60·8
May ...	92·0	80·8	97·7	102·2	87·4	106·9	29·4	77·5	12th	116·3	44·5	15th	71·8
June ...	89·4	82·8	92 2	97·1	85·8	102·7	24·0	78·7	12-13th	111·3	36·5	30th	74·8
July ...	83·8	80·4	86·1	86·9	81·9	92·5	14·3	78·2	2nd	99·0	23·2	4-5th	75·8
August ...	84·1	80·4	86·6	87·4	82 0	93·0	14 3	78·7	28th	96·3	22·4	7th	73·9
September	82·5	79·3	85·4	85·2	80·4	91·0	13·2	77·8	29th	94·3	19·4	24th	74·9
October ...	77·3	71·5	82·1	82·3	73·4	86·8	17·3	69·5	4th	92·3	33·4	30th	58·9
November	66·8	56·8	74·4	75·2	60·9	79·8	25·3	54·5	9-10th	82·3	34·3	27th	48·0
December	61·8	52·1	67·7	70·9	56·5	75·0	25·9	49·1	25th	78·3	36·4	31st	41·9

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	61·4*		66·1	73·9		78·1	29·2	48·9	22nd	82·0	37·0	3-4th	45·0
February ...	66·8*		72·3	79·6		84·0	30·0	54·0	28rd	97·0	50·0	5th	47·0
March ...	76·5*		82·0	89·5		93·3	29·7	63·6	31st	100·0	41·0	13th	59·0
April ...	85·2*		90·5	98·5		102·7	30·7	72·0	28th	107·0	43·0	4th	64·0
May ...	89·4	83·0	90·1	97·4	87·2	102·7	23·1	79·6	12th	108·0	37·0	5th	71·0
June ...	87·2	83·4	88·3	91·7	85·7	94·7	13·3	81·4	12th	102·0	24·0	10th	78·0
July ...	84·3	81·1	85·7	87·4	83·1	90·4	11·4	79·0	2nd	95·0	19·0	16th	76·0
August ...	84·8	81·6	86·2	88·1	83·5	90·4	11·2	79·2	29th	95·0	19·0	4th	76·0
September	83·1	80·2	85·4	85·4	81·5	88·8	10·8	78·0	4th	94·0	19·0	30th	75·0
October ...	79·0	74·5	80·7	83·9	77·0	85·9	13·6	72·3	4th	92·0	30·0	30th	62·0
November	69·4	60·9	71·9	78·4	66·4	80·1	21·0	59·1	8-10th	83·0	29·0	27-29th	54·0
December...	63·9	56·3	65·9	73·1	60·3	75·0	21·4	53·6	20th	78·0	36·0	30th	42·0

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January ...	42·2	37·1	44·3	46·7	40·9	52·7	15·6		17th	62·0	30·0	3rd	32·0
February ...	43·8	37·0	46·3	49·0	43·0	53·7	16·7		24th	66·0	38·0	4th	28·0
March ...	52·0	45·0	54·9	58·1	50·1	63·9	18·9		18th	72·0	33·0	10th	39·0
April ...	58·7	51·6	62·6	64·0	56·5	70·1	18·5		30th	78·0	30·0	18th	48·0
May ...	62·1	56·4	65·2	66·2	60·5	72·7	16·3		16th	79·0	31·0	8th	48·0
June ...	63·7	60·2	65·2	67·0	62·3	71·3	11·1		12th	79·0	22·0	4th	57·0
July ...	64·9	60·5	67·2	68·7	63·3	73·6	13·1		30th	79·0	21·0	29th	58·0
August ...	64·4	61·5	65·8	67·2	63·3	71·2	9·7		20th	75·0	16·0	28th	59·0
September	63·0	58·9	65·3	66·4	61·4	70·4	11·5		11th	80·0	23·0	30th	57·0
October ...	57·3	51·9	60·4	61·7	55·3	66·8	14·9		7th	78·0	34·0	29th	44·0
November	49·4	43·1	54·1	54·6	46·1	60·0	16·9		27th	69·0	31·0	21st	38·0
December	44·7	38·2	48·6	50·1	41·9	54·1	15·9		30th	60·0	27·0	27th	33·0

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max. Day.	Highest Max. °	Monthly range.	Lowest Min. Day.	Lowest Min. °
January ...	61·7*		62·7	70·5		73·1	20·3	52·8	21st	77·2	28·2	10th	49·0
February ...	63·0*		69·7	74·2		77·9	26·0	51·9	22-23rd	87·9	39·9	5th	48·0
March ...	72·6*		79·1	83·6		85·9	24·2	61·7	27th	94·0	36·8	12th	57·2
April ...	77·6*		83·2	86·4		89·6	20·7	68·9	7th	97·0	34·4	15th	62·6
May ...	76·0*		79·2	81·1		84·1	13·2	70·9	15th	91·0	24·0	12th	67·0
June ...	80·3	77·4	80·9	83·2	79·7	85·6	11·0	74·6	8th	91·0	21·0	11th	70·0
July ...	82·1	79·0	83·7	84·7	81·3	87·6	11·1	76·5	26-27th	92·0	18·3	19th	73·7
August ...	81·6	78·9	82·6	84·4	80·5	87·3	10·5	76·8	22nd	91·5	11·5	12-30th	73·0?
September	80·5	77·1	82·1	83·9	79·1	86·4	11·4	75·0	2nd	92·0	21·9	29th	70·1
October ...	77·5	72·1	80·6	83·1	74·5	84·4	13·8	70·6	20th	89·0	26·7	31st	62·3
November	69·0	59·9	73·8	76·8	65·7	79·8	20·5	59·3	3rd	84·3	33·5	28th	50·8
December	64·6	55·5	68·3	72·6	62·2	75·6	21·0	54·6	6th	78·3	28·3	26th	50·0

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max. Day.	Highest Max. °	Monthly range.	Lowest Min. Day.	Lowest Min. °
January ...													
February ...													
March ...													
April ...													
May ...	68·5	64·7	70·9	71·5	67·0	74·9	11·4	63·5	11-12th	80·0	23·0	4th	57·0
June ...	69·9	66·3	71·8	73·5	68·1	76·3	10·4	65·9	23rd	78·0	15·0	15th	63·0
July ...	70·0	66·5	72·6	73·4	67·7	76·9	10·8	66·1	6th	82·0	19·0	24-25th	63·0
August ...	69·2	65·7	71·8	72·5	67·1	77·2	11·8	65·4	5th	83·0	19·0	28th	64·0
September	67·5	64·5	69·6	69·9	66·1	73·6	9·3	64·3	2nd	78·0	16·0	17th	62·0
October ...	63·3	58·8	67·6	66·0	60·9	72·1	13·8	58·3	25th	78·2	30·2	31st	48·0
November	55·6	49·0	61·4	60 3	51·7	66·0	18·1	47·9	8th	73·5	31·5	20th	42·0
December	51·9	45·2	57·4	56·2	48·8	65·1	21·3	43·8	13th	70·0	32·0	13th	38·0

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January ...	...	.....	68·4	75·5	
February ...	...	.....	75·9	83·2	
March ...	...	.....	85·4	89·8	
April ...	...	.....	98·6	103·3	
May ...	...	.....	104·2	110·0	
June ...	...	.....	98·9	102·5	
July ...	...	.....	90·3	85·9?	
August ...	86·7	80·6	92·1	91·6	82·8
September ...	84·2	80·0	88·7	87·3	80·9
October ...	77·5	68·7	84·6	86·9	69·8
November ...	66·2	52·1	76·6	80·5	55·6
December ...	60·5	45·5	68·5	75·3	52·7

ROORKEE.

	Mean. °	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max. Day.	Highest Max. °	Monthly range.	Lowest Min. Day.	Lowest Min. °
January ...	57·9	47·9	60·1	69·1	54·7	71·5	27·5	44·0	20th	78·8	48·1	3rd	30·7
February ...	62·1	53·1	64·5	72·2	58·5	74·3	24·8	49·5	25th	86·2	47·0	4th	39·2
March ...	68·3	60·5	71·7	76·9	64·1	79·6	22·0	57·6	30-31st	89·2	37·0	8th	52·2
April ...	81·6	67·7	88·6	93·5	76·9	97·1	32·2	64·9	22nd	108·1	50·9	3rd	57·2
May ...	94·8	80·5	100·7	107·6	90·5	109·7	31·0	78·7	20th	116·6	46·9	9th	69·7
June ...	95·2	85·0	97·8	104·9	93·1	107·5	23·9	83·6	6th	115·1	42·8	27th	72·3
July ...	86·1	80·3	88·3	92·6	83·4	94·7	16·2	78·5	2nd	105·1	32·8	6th	72·3
August ...	85·3	79·1	87·3	92·1	82·8	94·0	16·3	77·7	16th	99·7	18·5	27th	81·2
September	82·2	77·1	84·8	87·3	79·8	90·5	14·0	76·5	3rd	98·2	27·4	25th	70·8
October ...	74·5	64·4	79·8	84·7	69·2	86·9	24·6	62·3	17th	90·2	48·5	31st	41·7
November	63·2	49·4	70·4	76·9	56·2	80·3	33·5	46·8	3rd	83·2	41·5	26th	41·7
December...	58·2	47·3	62·1	70·0	53·4	74·9	31.2	43·7	28th	88·5	51·8	30th	36·7

In the following comparison of the prevailing temperatures of the years 1868 and 1869, I have, in all cases, taken the corresponding observations. Thus in most cases the $\frac{\text{min}+16\text{h.}}{2}$ means are taken for both years, but whenever the 4-period means are available for both years, they have been preferred. In one case (Berhampore, in May) the means of the maximum and minimum temperatures are taken; and at Madras, Benares, and one or two other stations partially, that of the 10h. and 16h. observations. For the present purpose the variation of methods is not of much importance, since it may be assumed that at the same station, the form of the mean diurnal curve of temperature, and consequently the relative excess or defect of the temperature of certain hours on the mean of the day, does not vary much in consecutive years. Each mean compared is deduced from at least 60 observations. Those stations at which the exposure of the instrument has been changed, are omitted in the comparison.

The most striking feature of the temperature of 1869, as compared with that of 1868, is its high range in the first five months of the year. At almost every station this excess is manifest, but especially at two, distant from each other, and differing greatly in all the physical circumstances of their position, Port Blair and Berhampore. This is shown in the following table, which gives the excess of 1869 over 1868, for each of the first five months of the year, the mean excess of the same months, and that of the three months, March to May. These months follow immediately on the re-distribution of atmospheric pressure at the close of the N. E. monsoon, and are those in which the barometric irregularities, already described, became pronounced, influencing in their turn, as we shall see subsequently, the direction of the winds and the distribution of the rain-fall.

Table V.—Comparison of the mean temperature of the first five months of 1869 with that of the corresponding months of 1868.

	Jan.	Feb.	March.	April.	May.	Mean of 5 months.	Mean of Mar. to May.
Port Blair ...	+4·8	+4·7	+6·4	+4·7	+5·1	+5·1	+5·4
Madras ...	+4·1	+2·3	+2·7	−0·1	+2·2	+2·2	+1·7
Akyab ...	+0·5	?	+2·9	+3·4	+0·7	+2·1	+2·3
False Point ...	+3·8	+1·6	+1·9	+1·4	+1·7	+2·1	+1·7
Cuttack ...	+2·9	+1·7	+2·3	+1·7	+3·6	+2·4	+2·5
Saugor Island ...	?	+0·2	+0·8	+0·5	+1·9	+0·8	+1·1
Calcutta ...	+1·2	+1·1	+0·3	+3·2	+2·5	+1·6	+2·
Jessore ...	+1·8	+3·3	+1·3	+8·	+5·3	+4·0	+4·9
Hazareebaugh ...	+1·4	+5·9	+0·3	+2·6	+6·7	+3·4	+3·2
Berhampore ...	+3·0	+3·4	+4·2	+4·7	+10·5	+5·0	+6·4
Patna ...	+3·8	+4·8	−2·8	+7·	+9·3	+4·5	+4·6
Monghyr ...	+0·8	+1·9	+1·6	+2·7	+4·3	+2·3	+2·8
Benares ...	+5·6	?	?	?	+8·3		
Roorkee ...	+2·2	+2·2	+0·5	+1·6	+7·4	+2·8	+3·2

The greatest excess of temperature, then, occurred at Berhampore, and at this station it was at its maximum in May, or immediately preceding the commencement of the rains. But Patna, Hazareebaugh, Benares and Roorkee also show excessive temperatures in May, second only in this respect to Berhampore; and three of these stations lie within the June isobaric of 29·5. Jessore,

the temperature of which was also excessive in April, less so in May, lies just over the same line. The different distribution of atmospheric pressure in the hot weather months of 1868 and 1869 is, therefore, clearly related to the different distribution of temperatures. In 1868 the site of lowest pressure was in the head of the Bay, nearest to Saugor Island, and here accordingly the temperature of 1868 was relatively higher in that year, since the excess of 1869 was much below that of any other station.

But while a comparison of the temperatures of the two years is of interest, in relation to the comparative distribution of pressure, it is to the absolute distribution of temperature that we must look for an explanation of that of pressure in each year. This is given for 1869 on the following page, (Table VI.) wherein the mean temperatures are reduced to sea-level by adding 1° for every 350 feet of elevation. The figures are not indeed strictly comparable in all cases, since certain of them are deduced from the $\frac{\text{min.} + 16\text{h.}}{2}$ means. These are, however but few, and are distinguished by an (*)

The distribution of temperature during the months of March, April and May exhibited in the above table is very different from that of the normal isotherms of the hot season given in Dr. H. Von Schlagintweit's Chart. (Phil. Trans. 1863, Pl. XXX.)

In April and May a mean temperature equal to that which usually prevails at the thermal focus of the Peninsula (Nagpore) was experienced over an area to the west of the Ganges Delta, including Hazareebaugh, Patna, Berhampore and probably Gya and Monghyr; of which stations Hazareebaugh showed the highest temperature. This region, it will be observed, coincides with that over which low barometric pressure prevailed in the same months, and the former fact goes far to explain the latter. At the same time, the temperatures of Darjeeling and Goalparah were much below the mean, and differed from those of Berhampore and Hazareebaugh by from 10° to 16°, the difference of latitude, be it remembered, being not more than 2°to 3°, and the mean difference of temperature at this season, according to the chart above referred to, not more than 5° to 7°. At Calcutta the temperature during these months was about as much above the mean, as during the previous year it had been below it,* but it is worthy of remark that the highest temperature of May did not exceed 100, and there were no hot winds. These winds, indeed, the temperature of which in Lower Bengal is sometimes as high as 105°, do not reach Calcutta in all years, and in 1869 there

* The following is a comparison of the monthly means of the hourly observations at Calcutta, with the averages of 16 years similarly reduced :—

	1869.	16 years.	Diff.		1869.	16 years.	Diff.
January	69·5	67·6	+2·1	July	83·9	83·5	+0·4
February	73·5	72·8	+0·7	August	84·5	83·	+1·5
March	80·1	80·5	−0·4	September ...	83·1	83·2	−0·1
April	86·5	84·5	+2·0	October	81·4	81·4	± ·0
May	87·0	86·0	+1·0	November ...	73·3	74·7	−1·4
June	86·3	84·9	+1·4	December ...	68·5	67·8	+0·7

Mean of the year +0·6.

Table VI.—Mean monthly temperatures of 1869 reduced to sea-level.

	Jan.	Feb.	Mar.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Port Blair ...	81·8*	82·1*	85·8*	87·6*	85·8*	83·5*	83·5*	83·5*	82· *	82·4*	81·8*	81·7*
Akyab ...	69·6	?	80·3	84·1	85·1	83·2	81·	81·8	81·7	81·1	76·7	72·7
False Point ...	73·3	75·9	80·3	84·9	87·9	87·5	84·8	85·9	85·5	83·5	76·	71·2
Cuttack ...	72·4	75·9	81·5	87·9	91·3	88·1	84 1	85·1	83·9	81·1	73·3	70·3
Saugor Island...	71·3	74·4	81·3	86·	88·	88·2	85·6	85·6	84·3	81·5	74·	69·7
Chittagong ...	68·8	72·6	80·0	83·8	84·8	84·3	82·5	82·6	83·3	81·9	74·	69·2
Calcutta ...	69·8	73·7	80·8	86·7	87·1	86·4	83·9	84·5	83·2	81·4	73·6	68·7
Jessore ...	67·6	72·2	79·9	86·3	86·5	85·7	83·4	84·4	83·	79·6	69·3	64·8
Dacca ...	66·9	71·6	78·8	83·2	84·1	84 5	83·6	84·3	82·8	80·4	72·2	67·7
Cachar ...							83·5	81·9	81·4	79·8	70·8	65·6
Hazareebaugh...	68·4	72·8	79·4	91·3	94·3	89·5	83·5	85·	83·2	78·3	70 5	67·1
Berhampore ...	66·	71·5	80·1	89·4	90·2	87·4	85·4	86·	84·1	82·1	72·8	67·8
Monghyr ...	61·8*	67·2*	76·9*	85·6*	89·8	87·6	84·7	85·2	83·5	79·4	69·8	64·3
Gya ...						93·3	84·9	85·5	84·8	80·1	70·4	64·9
Patna ...	62·6	68·4	77·4	89·2	92·5	89·9	84·3	84·6	83·	77·8	67·3	62·3
Darjeeling ...	62·1	63·7	71·9	78 6	82·	83·6	84·8	84·3	82·9	77·2	69·3	64·6
Goalparah ...	63·	64·1*	73·7*	78·7*	77·7	81·4	83·2	82·7	81·6	78·6	70·1	65·7
Shillong ...					82·2	83·6	83·7	82·9	81·2	77·	69·3	65·6
Benares ...								87·4	84·9	78·2	66·9	61·2
Roorkee ...	60·5	64·7	70·9	84·2	97·4	97·8	88·7	87·9	84·8	77·1	65·8	60·8

is an apparent reason for their absence, since they come from the heated plains of the North-West Provinces and Central India, and the region of low pressure of Hazareebaugh and Monghyr would be the focus towards which the winds would tend from all quarters. The heat at Calcutta was generally remarked as oppressive, but this implies something more than mere excessive temperature; generally indeed humid air and a calm atmosphere.

The low temperatures of Darjeeling and Goalparah were possibly, to some extent and indirectly, the effect of the high temperatures over the country to the south of the Ganges, if we are justified in assuming that the low atmospheric pressure in the latter region was in any measure due to the local heating of the atmosphere; since this would diminish the tendency of the heated air to flow in the direction of the north-eastern stations, and increase that of cold air to flow from the cool country of Assam and the snowy range. This inference cannot be verified with our present data; but a reference to the wind tables will show that, at Goalparah there was an excess of north-easterly and easterly winds in April and May, especially the latter month; while at

Darjeeling the winds were chiefly east and west, with a small excess of southerly over northerly elements. With the commencement of the rains in June the distribution of temperature became more equalized in Lower Bengal, but excessive temperatures still prevailed in the North-Western Provinces and Behar, where the rain-fall was generally light. In July, August, and September, the temperature of this region was higher than the average, owing probably to the comparative prevalence of dry westerly winds and the deficiency of rain-fall, while in Lower Bengal it was about that which is usual at this season. At the end of September and beginning of October the rains became general, and the temperature then fell. October and November were both very cool months. There is then no reason to believe that the maintenance of a low atmospheric pressure in the region between the Ganges Delta and the Soane Valley was due to a persistent difference of temperature: it may have been owing to the greater humidity of the air, shown by the figures in Table IX., as compared with that of the North-Western Provinces.

Temperature of Solar Radiation.

The temperature indicated by a thermometer with a blackened bulb in vacuo, exposed to the sun's rays, gives, as Sir J. Herschel has pointed out, but a rude measure of the heat received by the earth from the sun. But in the absence of any direct determination of the sun's local *energy*,* the former datum has a considerable value, and may be taken to bear a certain ratio to the amount of heat communicated to the lower atmosphere and the soil, and therefore effective in determining local variations of temperature with all their consequences.

The observations of solar radiation, recorded during the past year, though more numerous and continuous than those of the previous year, are less so than those of most other meteorological elements, owing to the want of instruments and their occasional destruction by accident; a fate to which their comparative fragility and unavoidable exposure render them particularly liable. The registers are complete for five stations, incomplete more or less for six. These are sufficient to admit of a useful comparison with those published in the report for 1868. It is almost superfluous to observe that observations made with instruments, other than a self-registering blackened bulb mercurial thermometer in vacuo, are not included in the summary. The means are derived from readings recorded on all days, whether serene or overcast.

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* The term is of course employed in a strict and technical sense.

Table VII.—Maximum, Minimum, and Mean monthly readings of the exposed Black-Bulb Thermometer in Vacuo.

	PORT BLAIR.					CALCUTTA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...	148·8	29th	158·0	3rd	144·0	115·4	29th	122·5	12th	109·5
February ...	151·6	11th	170·0	6th	142·0	122·2	25th	131·5	7th	108·0
March ...	152·9	8th	162·0	4th	145·0	129·9	12th	135·5	21st	119·5
April ...	153·9	26-27th	165·0	29th	97·0	131·6	30th	137·5	14-15th	124·0
May ...	152·7	11th	165·0	14th	115·0	131·2	2nd	137·7	22nd	124·3
June ...	143·2	10th	156·0	14th	117·0	Not recorded.				
July ...	141·1	30th	167·0	28th	105·0	Ditto.				
August ...	150·4	12th	167·0	20th	111·0	Ditto.				
September ...	149·0	26th	167·0	21st	97·0	128·6	22nd	136·0	3rd	118·0
October ...	149·1	14th	165·0	16th	115·0	128·9	4th	134·5	30th	120·0
November ...	147·9	5th	159·0	24th	139·0	119·4	1st	125·0	28th	115·0
December ...	147·3	28th	156·0	10th	137·0	114·1	1st	120·0	7th	110·0

	BERHAMPORE.					JESSORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...	126·0	29th	135·5	28th	113·0	133·6	14th	140·0	28th	106·0
February ...	134·9	22nd	146·0	9th	83·0	133·5	26th	146·5	10th	69·5
March ...	141·8	29th	149·5	7th	118·5	143·0	19th	154·0	4th	115·0
April ...	150·1	27th	163·0	15th	132·0	Not recorded.				
May ...	146·5	10th	155·0	16th	110·0	Ditto.				
June ...	138·2	3rd	156·0	10th	84·0	Ditto.				
July ...	140·9	2nd	150·0	15th	100·0	Ditto.				
August ...	148·8	12th	161·0	6th	125·5	Ditto.				
September ...	138·3	6th	151·0	9th	95·0	144·8	21st	156·4	8th	114·0
October ...	141·3	12th	154·0	8th	93·0	145·1	13th	156·0	19th	133·0
November ...	132·6	15th	142·0	26th	125·0	137·9	16th	145·3	30th	132·0
December ...	120·3	21st	130·5	20th	112·0	132·3	21st	139·0	31st	128·0

	SHILLONG.					GOALPARAH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...						115·7	3rd	126·0	25th	99·0
February ...						118·9	24th	128·0	9th	108·0
March ...						125·8	29th	137·0	4th	105·0
April ...						123·3	29th	139·0	14th	72·9
May ...						122·7	27th	142·0	17th	96·0
June ...						133·9	24th	149·0	10th	98·0
July ...						139·3	16th	152·0	5th	102·0
August ...						144·9	18th	158·0	15th	105·0
September ...	121·8	2nd	143·0	29th	76·0					
October ...	129·6	17th	150·0	10th	82·0					
November ...	137·4	24th	149·0	29th	129·5					
December ...	131·4	8th	145·0	18th	120·5					

	CACHAR.					HAZAREEBAUGH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...						127·6	31st	137·0	26th	89·0
February ...						136·2	21st	149·0	9th	111·0
March ...						141·6	3rd	153·0	14th	132·0
April ...						158·2	28-29th	168·0	2-3rd	148·0
May ...						164·2	13-14th	172·0	22nd	149·0
June ...						150·8	5th	164·0	29th	133·0
July ...						141·7	27th	160·0	29th	102·0
August ...	120·2	4th	142·0	9th	95·0	147·1	27th	161·0	25th	134·0
September ...	124·1	1st	144·0	15th	90·0	146·3	3rd	156·0	7th	129·0
October ...	131·5	8th	142·0	13th	118·0	139·8	10th	152·0	8th	112·0
November ...	127·8	24th	135·0	20th	114·0	135·6	14th	143·0	24th	129·0
December ...	126·0	3rd	134·0	6th	119·0	131·3	20th	139·0	30th	122·0

	PATNA.					MONGHYR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...	119·2	30th	139·0	27th	73·0	123·3	29th	133·0	26th	94·0
February ...	139·7	25th	155·0	27th	80·0	133·5	23-24th	144·0	6th	110·0
March ...	146·3	30th	157·0	29th	116·0	145·4	21st	155·0	22nd	130·0
April ...	154·6	23rd	165·0	26th	135·0	153·6	27-28th	164·0	26th	144·0
May ...	152·5	19th	166·0	21st	110·0	156·1	18th	166·0	5th	145·0
June ...	147·5	13th	163·0	27th	91·0	147·9	12th	160·0	10th	101·0
July ...	139·0	2nd	158·0	29th	93·0	147·3	27th	159·0	7th	106·0
August ...	147·0	9th	166·0	2nd	110·0	146·7	22nd	158·0	4th	123·0
September ...	144·4	29th	159·0	8th	85·0	144·4	21st	159·0	8th	113·0
October ...	139·8	6th	153·0	17th	130·0	140·0	18th	151·0	8th	101·0
November ...	128·2	14th	133·0	27th	121·0	133·1	7th	139·0	30th	128·0
December ...	121·8	24th	129·0	21st	115·0	126·1	25th	134·0	21st	114·0

	ROORKEE.					GYA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...	114·0	18th	127·7	27th	70·7					
February ...		Instrument out of order.								
March ...	133·5	28th	147·1	15th	77·1					
April ...	151·7	22nd	160·6	2nd	142·1					
May ...	158·6	21st	165·0	27th	147·0					
June ...	155·4	29th	185·0	4th	130·5	162·4	3rd	172·0	28th	109·0
July ...	146·3	17th	160·0	15th	115·0	154·2	3rd	167·0	29th	92·0
August ...	150·3	16th	161·0	27th	106·0	148·2	27th	169·0	5th	120·0
September ...	147·4	19th	165·0	27th	98·0	Not recorded.				
October ...	140·0	6th	155·0	9th	102·0	Ditto.				
November ...	120·6	1-2nd	137·0	21-22nd	106·0	Ditto.				
December ...	111·2	2nd	126·0	24th	97·0	122·0	18th	130·0	20th	111·0

From such a comparison as can be instituted between the above data and those given in the report for 1868, it appears that the intensity of that portion of the solar radiation which penetrates the atmosphere and affects the exposed thermometer, was generally greater during the earlier months of 1869 than those of 1868. This is especially shown at Hazareebaugh and Patna. At the former station the solar radiation was very intense in April and May; its mean temperature in the former month being 158°, in the latter 164°, while on one day the reading was high as 172°. At Berhampore the highest mean of solar intensity was in April, when it was nearly 19 degrees above that of Calcutta and only 8° below that of Hazareebaugh. Monghyr and Patna also gave high means, and at Gya in June the solar heat was nearly as intense as at Hazareebaugh in May. At Goalparah, on the other hand, the mean intensity of solar radiation was 123° only in April and May, that is, 8 degrees lower than at Calcutta, and 30° lower than at Hazareebaugh (on the mean of the two months.) Thus then the data, imperfect as they are, show the general local coincidence of intense solar radiation with high air temperatures, and *vice versâ*; and since the high and low temperatures coincide, as we have seen, with low and high barometric pressures respectively, it seems a reasonable inference that the variations of local solar radiation in different years may be the main determining cause of the barometric irregularities described in a previous part of this report.

This is not the place in which to enter on a discussion of the causes of variation in the local intensity of solar heat; in other words, the local diathermancy of the atmosphere: and a wider basis of induction must be established, before the importance of this element as a cause of barometric variation can be duly estimated. The relation, indicated by such facts as are before us, is however of sufficient relevancy and significance not to be passed over in silence. Some further remarks will be made on this subject in connection with obscuration by cloud.

Temperature of Grass (Nocturnal) Radiation.

The instruments for registering the temperature of the nocturnal radiation of grass were received only about the middle of last year, and the observations relate only to the latter months of the year. I defer any discussion of them until a more extensive series shall be available.

The thermometers are minimum instruments on Rutherford's principle, manufactured by Mr. Casella, and of the form figured in his catalogue No. 15. It is directed that they be exposed in an open, unsheltered place, on the grass, but above it, and supported on forked sticks.

Table VIII.—Maximum, Minimum and Mean monthly readings of Exposed Grass Radiation Thermometer.

	JESSORE.					CACHAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...										
February ...										
March ...										
April ...										
May ...										
June ...										
July ...										
August ...						75·1	19th	79·0	21st	70·0
September ...						75·5	2nd	78·0	10th	72·0
October ...						70·1	10th	75·0	30th	60·0
November ...	52·3	25th	59·0	22nd	45·6	57·2	5th	64·0	29th	49·0
December ...	45·0	21st	55·0	30th	36·8	50.2	6th	56·0	28th	45·0

	HAZAREEBAUGH.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...										
February ...										
March ...										
April ...										
May ...										
June ...										
July ...										
August ...	71·3	15th	73·0	28-30th	70·0	78·2	29th	79·5	31st	76·5
September ...	70·1	19th	72·0	30th	68·0	76·1	7th	79·0	30th	72·0
October ...	61·4	8-10th	68·0	27th	53·0	71·1	17th	76·5	31st	59·0
November ...	50·3	13th	56·0	19th	45·0	56·3	14th	61·5	29-30th	49·0
December ...	46·2	20th	54·0	31st	39·0	48·7	22nd	56·0	31st	40·0

	GYA.					GOALPARAH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...										
February ...										
March ...										
April ...										
May ...										
June ...										
July ...										
August ...	76·4	22nd	81·0	6th	73·0					
September ...	70·5	2nd	80·0	30th	74·0	74·9	2nd	78·0	29th	71·3
October ...	66·6	7th	76·0	29th	52·0	68·4	8th	75·6	30th	57·5
November ...	47·8	10th	55·0	28th	41·0	55·4	3rd	61·7	28th	47·0
December ...	44·2	20th	57·0	31st	34·0	51·5	10th	59·0	17th	46·0

	PATNA.					SHILLONG.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°		Day.	°	Day.	°
January ...										
February ...										
March ...										
April ...										
May ...										
June ...										
July ...										
August ...										
September ...	76·3	27th	78·0	7th	74·0	61·0	11th	64·0	23rd	58·0
October ...	67·8	6-7th	77·0	30th	56·0	51·6	14th	60 0	31st	40·5
November ...	51·7	10th	60·0	26-28th	45·0	38·2	5th	46·5	20th	28·5
December ...	47·3	20th	56·0	31st	40·0	35·1	6th	41·0	13th	28·0

ROORKEE.					
	Mean.	Maximum.		Minimum.	
		Day.	°	Day.	°
January ...	37·4	28th	52·8	2nd	24·0
February ...	45·4	1st	50·5	4th	32·5
March ...	52·8	13th	60·0	7th	41·0
April ...	59·3	23rd	80·	10-11th	51·0
May ...	73·7	27th	88·5	1st	64·0
June ...	81·0	18th	88·0	27th	71·0
July ...	76·3	2nd	82·0	6th	71·0
August ...	75·3	5-6th	79·0	11th	69·2
September ...	74·6	28-29th	79·0	25th	69·0
October ...	59·5	1st	74·5	30-31st	46·0
November ...	41·6	7th	46·5	24th	37·5
December ...	38·3	25th	48·0	31st	32·0

Humidity of the Air.

The mean humidity of the air, in other words, the mean ratio of the quantity of water vapour actually present, to that which would saturate it at the temperature of observation, is deduced from the 4-period readings of the dry and wet-bulb thermometers, the humidity being first ascertained for each observation by the use of Guyot's tables, and the arithmetical mean of the whole being assumed as that of the day. That this assumption is legitimate, I showed in my report for 1868, by a comparison of the 4-period and hourly means of each month of 1868 for Calcutta. The greatest error amounted to 2 per cent. of saturation : but it must be observed that this occurred in the driest month (March), and it is possible therefore that could a similar comparison be instituted with observations made in a dry climate, such as that of the N. W. P. or the Punjab, a greater difference might be found. The diurnal curve of vapour elasticity, and consequently that of humidity also, varies very greatly in different months of the year. In the driest month (March) at Calcutta, the afternoon minimum, which is due to the increased diffusion of the heated vapour, so greatly exceeds the morning minimum due to the cooling of the vapour, that the latter becomes comparatively insignificant; while in July, the dampest month, the curve presents, as in the winter months in Europe, but one maximum and one minimum corresponding to those of temperature.

It may be anticipated that the former curve is typical of a dry heated region, such as the Punjab, the latter of sea-coast stations. The humidity curve is of course of a character intermediate between that of vapour elasticity and that of temperature, (or more strictly speaking, of saturated vapour corresponding to the temperature.)

Table IX.—Mean Humidity for 1869.

	PORT BLAIR.					MADRAS.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			70	60				62	62	
February ...			73	68				57	60	
March ...			67	63				56	62	
April ...			70	66				57	68	
May ...			81	80				47	63	
June ...			85	84				42	47	
July ...			85	83				47	54	
August ...			84	82				61	62	
September ...			88	86				62	62	
October ...			85	83				66	62	
November ...			75	73				73	71	
December ...			75	74				70	68	

	AKYAB.					FALSE POINT.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	84	89	81	81	87	84	87	83	83	85
February ...			Not recorded.			82	87	81	77	86
March ...	72	80	66	65	78	85	88	82	82	88
April ...	74	81	69	67	79	84	88	81	82	87
May ...	79	84	78	75	80	83	86	81	83	85
June ...	83	85	84	81	84	83	85	84	82	84
July ...	86	88	86	84	87	87	89	87	87	88
August ...	83	85	84	80	84	84	85	84	84	85
September ...	82	87	83	79	79	84	85	84	85	84
October ...	81	86	80	75	83	81	81	81	82	82
November ...	78	83	78	69	82	67	70	65	64	69
December ...	75	81	76	63	79	73	81	72	67	74

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	69	83	65	50	81	82	89	86	69	85
February ...	66	76	66	45	77	84	89	85	75	88
March ...	71	83	67	56	79	82	87	82	74	87
April ...	66	81	62	51	72	82	86	79	77	86
May ...	66	79	63	53	71	82	84	81	79	84
June ...	74	84	69	65	79	84	87	84	80	86
July ...	83	87	82	79	86	87	90	88	84	89
August ...	82	87	79	77	86	87	90	87	83	88
September ...	84	90	81	80	87	88	91	88	85	88
October ...	81	87	78	74	85	85	93	81	78	88
November ...	64	76	59	52	71	72	85	68	57	78
December ...	64	75	59	49	74	74	86	72	55	83

	CHITTAGONG.					CALCUTTA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	76	81	75	69	78	69	82	69	51	76
February ...	78	82	78	72	82	71	85	71	49	78
March	79	84	76	71	84	71	87	69	52	78
April ...	79	85	76	74	84	69	87	64	49	78
May ...	84	89	81	79	86	75	87	71	62	82
June ...	86	90	85	83	88	81	91	77	73	86
July ...	87	91	83	83	90	87	93	84	80	91
August ...	86	95	80	78	92	86	94	83	80	89
September ...	85	92	77	79	92	88	95	83	83	92
October ...	79	89	65	74	89	81	91	75	70	87
November ...	74	92	61	64	80	67	81	62	50	76
December ...	74	91	63	61	84	67	81	64	47	76

	JESSORE.					DACCA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	69	92	55	44	85	76	90	67	65	84
February ...	68	92	53	43	83	72	91	61	52	84
March ...	68	90	57	46	79	72	92	59	53	84
April ...	64	88	53	43	73	77	93	68	62	84
May ...	74	90	67	60	79	85	96	80	75	91
June ...	81	91	76	71	85	89	98	84	82	93
July ...	86	94	80	81	90	89	96	86	83	94
August ...	84	94	78	75	89	89	97	85	81	94
September ...	87	95	78	82	93	90	99	86	82	95
October ...	83	95	72	73	92	83	96	74	70	93
November ...	73	93	56	55	89	71	88	58	54	83
December ...	72	94	58	48	91	72	89	63	53	85

	CACHAR.					HAZAREEBAUGH.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...						61	73	58	50	65
February ...						48	61	45	36	33
March ...						51	66	45	36	59
April ...						42	51	40	36	41
May ...						50	63	45	37	56
June ...						70	81	65	60	75
July ...						91	98	88	86	94
August ...	90	95	89	85	94	86	94	82	77	91
September ...	91	97	89	83	96	85	93	81	78	91
October ...	86	97	82	71	95	72	83	65	63	79
November ...	83	95	80	64	94	54	68	44	40	64
December ...	83	95	85	58	94	56	71	49	41	63

	BERHAMPORE.					GYA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	72	86	71	54	80					
February ...	61	81	58	37	70					
March ..	57	73	53	39	65					
April ...	56	69	56	40	61					
May ...	72	85	72	58	76					
June ...	82	90	81	75	83	58	66	53	51	61
July ...	86	94	83	79	90	82	89	76	75	90
August ...	84	94	78	76	90	81	92	75	73	87
September ...	87	95	82	83	91	80	90	74	74	84
October ...	77	89	69	63	86	69	84	61	56	78
November ...	67	86	58	46	80	56	80	46	37	61
December ...	69	89	62	45	82	60	82	51	35	73

	PATNA.					MONGHYR.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	56	77	45	37	67	...	...	55	40	...
February ...	43	60	35	25	52	...	...	50	37	...
March ...	38	55	31	24	43	...	...	47	39	...
April ...	29	43	27	19	29	...	...	40	34	...
May ...	48	67	39	31	54	...	...	56	47	...
June ...	63	78	58	47	71	73	82	70	63	78
July ...	82	89	78	75	87	84	93	80	76	88
August ...	84	93	78	75	90	82	91	79	73	86
September ...	84	91	78	79	89	84	92	76	79	89
October ...	73	88	63	59	83	74	86	72	61	80
November ...	66	86	52	46	80	61	77	57	43	69
December ...	66	83	56	46	79	63	81	60	46	67

	DARJEELING.					GOALPARAH.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	81	86	78	74	86			74	60	
February ...	81	85	77	73	88			64	51	
March ...	65	72	63	55	71			54	41	
April ...	66	72	57	65	71			60	52	
May ...	82	86	80	78	86			82	77	
June ...	92	96	92	87	96	89	95	87	84	91
July ...	90	94	89	84	94	86	92	84	82	87
August ...	92	95	90	89	95	87	98	87	81	89
September ...	90	92	89	87	95	88	95	86	81	92
October ...	83	84	81	82	86	80	92	77	67	87
November ...	66	71	58	62	74	74	88	68	59	82
December ...	73	78	69	64	81	76	96	73	60	78

	SHILLONG.					BENARES.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...								48	35	
February ...								35	26	
March ...								33	27	
April ...								21	13	
May ...	77	80	74	74	81			24	17	
June ...	82	86	82	78	85			48	39	
July ...	87	80	78	86	82			72	75	
August ...	87	89	86	86	87	80	94	68	68	91
September ...	87	88	87	86	89	85	96	75	77	94
October ...	83	84	76	86	88	74	96	59	53	91
November ...	68	74	55	68	77	65	93	44	37	88
December ...	76	82	60	82	81	68	85	57	45	85

ROORKEE.					
	Mean.	4h.	10h.	16h.	22h.
January ...	61	76	59	46	65
February ...	65	84	63	62	72
March ...	65	80	61	48	72
April ...	36	55	31	18	41
May ...	28	41	25	17	32
June ...	42	56	40	29	43
July ...	73	86	68	60	79
August ...	76	89	72	63	83
September ...	81	90	76	73	88
October ...	69	88	61	48	81
November ...	62	83	55	39	74
December ...	65	82	61	47	72

* * Except at Saugor Island, Calcutta and False Point, the atmosphere in the earlier months of 1869 was generally drier than in the corresponding months of 1868. This was especially the case at Berhampore, Jessore, Darjeeling, Patna, and Monghyr, as well as, apparently, in the North-West Provinces: and it seems not improbable, that it was at least in part due to the deficient rain-fall of the preceding year. On the other hand, since the increased siccity implies diminished evaporation, we have here one probable cause of the higher temperature noticed in the previous pages. In the later months (October, November, and December,) it was generally slightly more humid at the Western Bengal and Behar stations, and at those of the North-West Provinces; and the increased humidity coincided with a somewhat lower temperature; both being the probable consequences of the rain, which fell generally over those regions in the end of September and beginning of October, whereas the rains of the previous year had failed almost entirely. Hazareebaugh seems in some degree to be an exception to the rule, since, while the temperature was considerably higher in the earlier months of 1869, than in those of 1868, the humidity of March and April was also higher. But even here it may be observed that the chief excess of temperature was in February and May, and in both years the siccity and temperature were comparatively great, and the barometer low.

The absolute distribution of humidity during 1869 in like manner was in general inversely as the temperature.

Serenity.

In the following tables are given the mean proportions of *unclouded sky** as estimated at the regular hours of observation. A clear unclouded sky is designated by 10, an overcast sky as 0. Calcutta, False Point and Benares do not give these observations; two of these stations are not subject to the Meteorological Department, and at the third (False Point) it has not been thought advisable to require them. Day observations only are recorded at Port Blair and Roorkee, and at some other stations for a few months. With a view to ascertaining from the observations of the remaining stations whether any general relation exists between the proportion of cloud by night and by day,—in other words, whether any general law obtains or is discoverable with regard to the diurnal variation of cloud, I have instituted a comparison of the observations of all the stations at which the cloud proportion has been observed four times daily.

The result of this discussion is, that on the mean of the whole year, excepting at Chittagong, Cachar, and Goalparah, cloud was more prevalent by day than by night, in proportions varying from 3 to 12 per cent. at different stations. Exceptions occur in particular months, however, at all stations and in all seasons. At Shillong, there is the greatest preponderance of day cloud (12 per cent.), at Cachar, the greatest excess of night cloud (10 per cent.), but the observations at both these stations do not include the earlier months of the year. The preponderance of clear sky, shown by the night observations, is almost entirely due to the comparative absence of cloud at 22h. At 4h. its frequency and amount are little less than in the day time, and at 10h. and 16h. nearly equal. If the Calcutta curves of vapour elasticity and humidity during the cold weather and hot months may be taken as representing the general character of those of other stations, the minimum of cloud would appear to intervene between the period of maximum elasticity and that of maximum humidity at the ground surface.

On the whole, the mean diurnal variation of cloud prevalence appears to be small in comparison with its variation from month to month; and the means of day observations *per se* afford data for a useful, if rough comparison with the means deduced from four sets of observations. In the following tables, therefore, I give the former means where the latter are not ascertainable, distinguishing them by an (*) as in the case of other meteorological elements.

* I prefer this mode of estimating the state of the sky, to that which is more generally adopted by English writers, viz., its converse, the proportion of cloud: since it shows directly *pro tanto* the diathermancy of the atmosphere, and consequently the figures may be compared directly with the quantity of solar heat received and terrestrial heat radiated.

Table X.—Mean Serenity of 1869.

	PORT BLAIR.					AKYAB.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	5·76*		5·39	6·13						
February ...	6·32*		6·36	6·28						
March ...	6·58*		6·64	6·52		7·24*		7·82	6·77	
April ...	4·92		5·17	4·67		6·08*		6·16	6·00	
May ...	3·80*		3·38	4·22		3·50*		3·48	3·52	
June ...	1·90*		2·17	1·63		1·61*		1·33	1·90	
July ...	2·75*		2·90	2·60		0·92*		0·74	1·10	
August ...	3·42*		3·48	3·36		2·20*		1·97	2·48	
September ...	2·85*		3·23	2·47		2·67	1·87	3·13	2·70	3·00
October ...	3·89*		3·90	3·88		6·21	6·07	5·68	6·13	6·96
November ...	5·10*		5·10	5·10		8·45	8·53	8·10	8·13	9·04
December ...	5·37*		5·58	5·16		8·13	7·86	8·90	8·48	7·29

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·46	8·32	6·32	6·22	8·97	...	...	...	...	...
February ...	7·79	8·28	7·18	7·50	8·21	7·36	8·10	5·71	7·14	8·50
March ...	4·89	4·58	5·45	3·39	6·16	6·63	6·00	6·61	7·16	6·77
April ...	6·73	6·00	7·57	5·80	7·57	6·77	7·10	6·03	7·30	6·66
May ...	6·25	4·84	6·52	7·19	6·55	5·23	5·51	3·83	5·74	5·87
June ...	3·78	4·10	3·53	2·70	4·80	4·03	5·06	2·80	3·20	5·06
July ...	1·44	2·13	1·29	0·84	1·52	3·10	2·48	2·86	3·00	4·06
August ...	3·35	3·52	3·03	2·87	3·97	4·39	4·87	3·22	3·45	6·03
September ...	2·63	2·87	2·30	1·87	3·47	3·96	5·06	2·46	2·90	5·43
October ...	3·75	3·77	3·51	2·97	4·74	5·92	6·41	5·48	5·28	6·51
November ...	8·17	8·57	8·30	7·33	8·50	9·10	9·06	9·03	9·00	9·33
December ...	8·47	...	8·49	8·45	...	9·57	9·64	9·54	9·25	8·87

	CHITTAGONG.					JESSORE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·95	7·13	7·51	8·29	8·90	7·78	8·19	7·67	7·45	7·83
February ...	7·44	7·00	7·42	7·64	7·71	7·91	6·60	8·46	7·96	8·63
March ...	6·74	6·71	5·87	7·09	7·29	5·84	4·54	5·39	6·63	6·83
April ...	6·49	6·13	6·33	6·73	6·80	6·96	6·56	6·50	6·86	7·93
May ...	6·15	4·87	6·54	7·22	6·00	5·60	3·93	5·48	6·09	6·90
June ...	3·68	3·76	4·46	3·73	2·80	4·49	4·93	3·80	3·76	5·46
July ...	3·45	2·87	3·58	3·70	3·67	3·73	4·00	2·67	3·32	4·96
August ...	3·73	2·48	4·32	4·64	3·54	5·00	5·90	3·80	4·25	6·06
September ...	4·87	5·73	4·73	5·22	3·80	4·30	5·00	3·50	3·03	5·70
October ...	7·61	7·48	7·06	7·64	8·29	6·74	7·48	6·29	6·00	7·41
November ...	9·08	9·00	8·83	9·16	9·40	9·13	9·23	8·90	8·70	9·70
December ...	9·46	9·61	9·35	9·38	9·51	9·47	9·50	9·50	9·38	9·50

	DACCA.					CACHAR.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·02	8·06	6·80	5·35	7·87					
February ...	6·56	5·70	6·61	6·87	7·09					
March ...	5·53	4·58	5·16	5·51	6·87					
April ...	8·45	8·63	8·13	8·33	8·73					
May ...	5·26	4·93	4·67	6·06	5·41	5·66*		5·35	5·97	
June ...	2·71	2·87	2·03	2·80	3·16	4·69*		4·43	4·96	
July ...	2·46	2·06	2·16	3·22	2·41	6·01	6·77	6·84	5·93	4·52
August ...	3·15	2·51	2·32	3·74	4·03	4·44	2·77	5·00	5·32	4·68
September ...	1·89	1·83	1·90	2·70	2·13	5·41	4·10	5·97	5·86	5·73
October ...	5·88	5·93	5·00	5·19	7·43	7·34	5·93	7·48	7·90	8·06
November ...	8·69	8·80	8·63	8·23	9·10	7·84	6·53	7·73	8·60	8·50
December ...	9·77	10·00	10·00	9·32	9·77	7·74	5·52	7·74	9·16	8·55

	HAZAREEBAUGH.					BERHAMPORE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	6·46	6·45	6·54	5·35	7·51	7·68	8·07	7·61	7·26	7·78
February ...	7·31	7·35	7·25	6·78	7·89	8·26	8·47	8·37	7·89	8·29
March ...	4·67	4·70	5·32	4·51	4·16	5·97	6·26	5·36	6·03	6·23
April ...	7·27	7·56	7·60	6·36	7·56	6·73	5·73	6·40	7·06	7·73
May ...	6·04	5·93	8·10	4·00	6·16	5·79	4·58	6·51	6·26	5·89
June ...	3·02	3·23	3·73	2·20	2·93	3·73	4·96	2·80	2·90	4·26
July ...	1·58	1·38	0·71	1·64	2·61	2·79	3·00	1·87	3·00	3·29
August ...	2·31	2·90	1·74	2·09	2·54	3·73	3·07	2·58	3·27	6·00
September ...	1·46	1·40	1·16	1·90	1·40	2·19	2·16	1·47	1·53	3·60
October ...	5·62	6·00	5·00	5·61	5·87	6·42	6·07	6·32	6·51	6·78
November ...	7·89	8·30	7·37	7·56	8·33	8·52	8·80	8·62	8·06	8·60
December ...	7·62	8·09	7·22	7·38	7·80	9·02	9·26	9·13	8·36	9·33

	GYA.					PATNA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...						7·80	8·16	7·46	7·42	8·16
February ...						8·41	8·89	8·07	7·93	8·75
March ...						5·79	6·45	5·10	4·39	7·22
April ...						7·89	8·03	8·13	7·20	8·20
May ...						8·98	7·97	8·71	7·79	8·45
June ...	4·10	3·30	4·93	2·63	5·53	4·03	4·33	4·26	3·13	4·40
July ...	2·85	3·03	4·06	2·06	2·23	2·94	3·90	2·32	2·45	3·09
August ...	3·47	3·03	4·00	2·10	4·74	2·49	3·07	1·80	1·45	3·64
September ...	3·11	3·27	3·33	2·47	3·37	2·84	3·34	2·17	2·33	3·47
October ...	6·30	5·74	6·19	6·26	7·00	6·68	6·55	6·13	6·91	7·15
November ...	8·61	8·73	8·47	8·03	9·20	8·93	9·80	8·33	7·96	9·63
December ...	8·26	8·26	8·13	7·71	8·84	8·04	8·35	7·35	7·58	8·88

	MONGHYR.					DARJEELING.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·42*		7·49	7·36		4·10*		5·03	3·38	
February ...	8·30*		8·39	8·21		3·97*		4·92	3·03	
March ...	7·05*		6·29	7·81		5·24*		5·19	5·29	
April ...	8·21*		8·23	8·20		5·83*		6·26	5·40	
May ...	7·55*		7·61	7·49		2·28*		2·50	2·06	
June ...	3·47	3·77	3·00	3·03	4·07	1·09*		0·56	1·63	
July ...	3·46	3·74	2·67	2·84	4·61	1·67*		1·45	1·90	
August ...	3·42	3·58	2·16	2·77	5·16	0·70*		0·67	0·74	
September ...	3·26	4·40	2·60	2·97	3·07	1·43*		1·50	1·36	
October ...	6·93	6·90	5·84	7·29	7·71	3·31*		3·67	2·96	
November ...	9·24	8·67	9·60	9·03	9·67	5.94*		6·96	4·93	
December ...	8·82	8·74	8·74	8·42	9·39	5·33*		5·90	4·77	

	GOALPARAH.					SHILLONG.				
	Mean.	4h.	10h.	16h.	20h.	Mean.	4h.	10h.	16h.	22h.
January ...	5·83*		5·74	5·91						
February ...	7·23*		7·28	7·18						
March ...	6·12*		5·97	6·26						
April ...	5·47*		5·23	5·71						
May ...	3·19*		3·29	3·02		2·82	1·71	2·42	3·58	3·58
June ...	1·84	1·40	1·17	2·23	2·37	2·77	2·03	1·70	3·16	4·20
July ...	2·99	2·32	2·93	2·87	3·84	1·77	1·16	1·35	1·77	2·82
August ...	2·82	1·64	1·97	3·03	4·65	1·89	1·22	0·96	1·29	4·12
September ...	2·29	1·40	1·60	2·87	3·30	1·66	1·70	1·13	1·56	2·26
October ...	5·61	5·22	5·35	6·19	5·68	5·12	7·22	5·03	2·90	5·35
November ...	7·47	6·03	8·13	8·13	7·60	7·63	9·16	8·03	4·80	8·56
December ...	7·09	4·66	7·80	7·97	7·93	6·40	7·93	7·67	3·00	7·03

ROORKEE.					
	Mean.	4h.	10h.	16h.	22h.
January ...	5·97*		5·61	5·97	
February ...	6·82*		7·25	6·39	
March ...	4·12*		4·48	3·77	
April ...	8·40*		8·67	8·13	
May ...	9·29*		9·74	8·84	
June ...	8·37*		9·07	7·67	
July ...	4·15*		4·25	4·03	
August ...	3·93*		3·84	4·03	
September ...	3·27*		3·10	3·43	
October ...	8·38*		8·35	8·42	
November ...	9·60*		9·70	9·50	
December ...	7·95*		7·61	8·29	

As might be anticipated, the Serenity Tables show a very direct relation with those of solar radiation and air temperature, when a comparison is made for stations in the same latitude, and the same month of the year. *Ceteris paribus*, as a general rule, the greater the proportion of clear sky, the greater the intensity of the solar radiation, and the higher the temperature. This is shown by the following table, which gives, side by side, the figures extracted from the foregoing table, the sea-level temperatures from Table VI, and the solar intensities from Table VII, for the three hot weather months at nine stations.

Table XI.—Comparison of Serenity, Solar Radiation and Mean Temperature in the hot weather months of 1869.

	March.			April.			May.		
	Serenity.	S. R.	Temp.	Serenity.	S. R.	Temp.	Serenity.	S. R.	Temp.
Hazareebaugh ...	4·67	141·6	79·4	7·27	158·2	91·3	6·04	164·2	94·3
Berhampore	5·97	141·8	80·1	6·73	150·1	89·4	5·79	146·5	90·2
Patna ...	5·79	146·3	77·4	7·89	154·6	89·2	8·96	152·5	92·5
Monghyr ...	7·05*	145·4	76·9*	8·21*	153·6	85·6*	7·55*	156·1	89·8
Goalparah ...	6·12*	125·8	73·7*	5·47*	123·3	78·7*	3·19*	122·7	77·7
Darjeeling ...	5·24*		71·9	5·83*		78·6	2·28		82·
Cuttack ...	4·89		81·5	6·73		87·9	6·25		91·3
Saugor Island ...	6·63		81·3	6·77		86·	5·23		88·
Jessore ...	5·84	143·0	79·9	6·96		86·3	5·60		86·5

Thus Darjeeling and Goalparah show a lower degree of serenity than any other station in April, and very much less so in May; and with the increase of cloud (at the latter station), the mean intensity of the sun's rays was diminished, notwithstanding the decrease of his zenith distance. Moreover, the temperature, as has already been noticed [p. 36], was much below the mean, especially at Goalparah, at which station the mean temperature of May was actually lower than that of April. On the other hand, at Hazareebaugh, Patna and Monghyr, especially the two last mentioned stations, the serenity was very high in April and May, coinciding with a high solar intensity and a high temperature. There were, indeed, minor irregularities, since, while the solar radiation and mean temperature were highest at Hazareebaugh, the serenity at that station was below that of Patna and Monghyr, and in like manner Darjeeling was more cloudy, but had a higher sea-level temperature than Goalparah in May. But a general concordance of these elements is all that can be looked for, and, in the case of the exceptions, a partial explanation is afforded by the elevation of Hazareebaugh and Darjeeling, owing to which the insolation must, *ceteris paribus*, be more intense.

Thus then we advance a step further in the chain of partial causes that led up to the peculiar distribution of pressure, which was influential in determining the rain-fall of the monsoon. In the present state of our knowledge, and with the data before us, we cannot expect to accomplish more than to explain the leading features of our climatal irregularities, but that so much is possible, affords encouraging grounds for the anticipation of a more ample harvest of knowledge when the accumulation of facts shall afford the means of collocating the meteorological elements of a wider area for several years.

Rain-fall.

A summary of rain-fall returns is given for 67 stations. I have before stated [p. 2] that the great majority of these cannot pretend to accuracy, owing chiefly to the errors of the instruments used,* but the errors of the registers are small in comparison with the yearly variation of the rain-fall.

The tables give the monthly rain-fall of each station, and the number of days on which rain was measured in each month. The daily reading of the gauge is taken at 18h. (6 P.M.), and the rain-fall registered each day includes, therefore, that which may have fallen during the last six hours of the previous day. There are no data available to show the diurnal distribution of rain-fall, but it may be inferred from the facts of the diurnal variation of the cloud given at p. 51, that less rain falls in the six hours after sunset than at any other period of the day. The Calcutta return of the number of days on which rain fell will be found to differ considerably from that published in the *Calcutta Gazette* and the *Asiatic Society's Journal* by the Superintendent of the Meteorological Observatory. The difference is due to my observing the usual practice of recording as days of rain-fall, those only on which there is a sufficient fall to be measureable, while the Observatory Registers record as days of rain those also on which but a few drops fall, not measureable in amount.

As in previous reports, the stations are classified in circuits according to Geographical position, as follows :—

1. **Central Circuit.**—This comprises the main portion of the Gangetic Delta, as bounded by the Bhagirutti and Hooghly, the Pudma or Ganges, and the lower Megna.

2. **South-Western Circuit;** comprising Orissa and the Tributary Mehals of Cuttack.

3. **Western Circuit;** which includes Chota-Nagpore and all the elevated country to the westward of the Delta, as far north as Rajmehal and the borders of the Ganges valley.

4. **North-Western Circuit;** consisting of the Gangetic plain west of the Cosi River, with the plains of Behar and the North-Western Provinces.

5. **Northern Circuit.**—The plain north of the Ganges, between the Cosi River and the Assam, and the Jamoona River; with the Hill Stations of Sikkim.

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* The form of rain-gauge most commonly in use is that which has a long narrow receiver, in which a float, carrying a graduated rod, rises with the accumulation of rain-water; and the quantity is indicated by the intersection of the scale by a horizontal bar across the mouth of the collecting funnel. A certain quantity of water, sufficient to raise the rod to the zero of the scale, should always be kept in the receiver; but this, so far as my experience enables me to judge, is rarely or never attended to: consequently, every observation of such a gauge is in defect of the truth. Sometimes I have found the float indented on the upper surface so as to hold a certain quantity of water. Its weight is then, of course, increased, and the quantity of water that must accumulate before the rod rises, is so much greater. Generally, therefore, it may be inferred that the quantity registered in defect of the actual quantity. Symon's gauges are now being supplied to all stations.

6. North-Eastern Circuit; which consists of Assam, and extends southward to the water-shed of the Garrow, Khasi, Jynteah, and Naga Hills.

7. Eastern Circuit; formed by the drainage basin of the Barak and its tributaries, the low country east of the Jamoona, with Tipperah and Chittagong.

8. South-Eastern Circuit.—This includes only two stations: Akyab on the Arracan coast, and Port Blair in the Andamans.

I give in the present report the elevations of several of the stations as nearly as I can ascertain them.

Table XII.—Rain-fall in inches, in 1869.

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	March	April	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Total.
	Madras ...	29	0·02	.....	.....	.....	.....	1·04	5·82	4·22	4·55	3·42	8·73	3·50	31·30
S.-Western.	Pooree ...	15?	.....	0·40	0·20	0·10	0.30	7·42?	9·54	7·74	12·48	6·69	.....	.....	44·87?
	False Point ...	18	0·90	2·30	3·60	.....	.....	3·70	15·30	12·65	2·60	13·25	.....	.....	54·30
	Cuttack ...	80	0·40	1·37	1·74	1·65	0·85	6·75	15·04	5·76	9·23	5·35	.....	.....	48·14
	Sumbulpore ...	.....	0·14	1·11	0·01	.....	0·03	7·30	13·14	6·62	7·70	10·30	.....	.....	46·35
	Balasore ...	15?	0·16	0·82	6·80	.....	0·64	7·10	8·38	5·94	13·19	6·74	.....	.....	49·77
Western.	Midnapore ...	.....	0·90	1·80	3·40	1·50	3·90	4·90	9·50	2·30	4·70	7·70	.....	.....	40·60
	Bancoorah ...	.....	0·30	0·80	4·10	0·40	3·50	7·45	15·50	4·80	4·65	9·10	.....	.....	50·60
	Chyebassa ...	.....	?	?	?	?	2·56	8·07	11·12	9·35	12·45	5·68	.....	.....	49·23?
	Purulia ...	.....	?	?	?	?	1·10?	8·30	17·41	7·05	9·30	5·95	.....	.....	49·11?
	Burdwan ...	97	0·20	0·30	1·80	1·60	1·70	12·50	6·30	4·70	4·60	6·90	.....	.....	40·60
	Raneegunge ...	.....	0·20	0·60	2·85	0·04	2·07	6·85	16·40	6·15	9·81	4·40	.....	.....	49·37
	Soory ...	157	.....	0·90	2·65	.....	2·45	14·30	19·85	12·25	18·05	5·85	.....	.....	76·30
	Deoghur ...	.....	?	?	1·78	0·30	2·34	5·85	11·08	4·51	10·27	7·98	.....	.....	44·11?
	Burhee ...	1,169	?	?	?	?	?	6·20?	14·55	4·60	10·73	9·66	.....	.....	45·74?
	Hazareebaugh ...	2,010	0·65	.....	1·97	.....	1·35	10·56	15·24	4·97	6·64	6·99	.....	0·01	48·38

Central.	Saugor Island ...	6	0·22	3·02	3·09	.....	3·16	5·81	12·67	7·57	10·67	5·76	.....	.....	51·97
	Contai ...	10	0·50	3·05	3·83	.....	4·67	8·28	18·21	13·44	14·76	8·53?	.....	.....	75·27
	Calcutta ...	18	0·90	2·72	4·59	0·20	3·25	18·84	14·54	6·02	7·91	3·03	.....	.....	62·00
	Howrah ...	18	0·50	4·60	9·80	0·30	3·98	18·48	11·62	5·94	10·47	5·61	.....	.....	71·30
	Hooghly ...	30	.....	3·00	5·60	0·40	2·30	14·60	15·40	3·22	9·76	3·53	.....	.....	57·81
	Jessore ...	15	0·89	1·65	3·39	2·85	7·47	15·17	11·53	4·72	8·28	2·48	0·16	.....	58·59
	Berhampore ...	80	0·70	0·16	3·28	0·35	4·47	21·74	9·59	7·26	13·10	5·76	.....	.....	66·41
	Fureedpore ...	.....	1·20	0·40	3·00	6·30	4·50	11·50	13·70	6·50	7·20	5·50	.....	.....	59·80
	Burrisal ...	.....	0·80	2·70	1·20	2·10	2·90	17·50	13·70	12·20	7·40	3·20	.....	.....	63·70
North-Western.	Bhagulpore ...	146	.....	0·10	0·44	.....	2·60	15·03	9·60	7·00	5·30	2·40	.....	.....	42·47
	Monghyr ...	150	0·10	0·02	0·60	.....	1·59	4·35	15·65	6·02	6·90	2·20	.....	.....	37·43
	Gya ...	450	.....	.....	2·87	.....	0·52	10·00	9·41	10·06	10·89	4·69	.....	0·20	48·64
	Patna ...	171	0·21	0·02	0·55	0·01	0·52	7·21	13·06	10·06	9·85	3·42	.....	.....	44·91
	Arrah ...	191	0·25	0·05	0·35	.....	0·25	5·75	12·35	12·60	8·00	9·10	.....	.....	48·70
	Buxar ...	.....	0·80	.....	0·10?	.....	0·30	4·75	12·00	6·80	10·13	6·05	.....	0·05	40·98?
	Chuprah ...	182	0·18	.....	0·65	.....	.....	4·60	8·10	9·50	7·20	3·50	.....	.....	33·73
	Chumparun ...	.....	.....	.....	?	?	1·10	3·40	5·64	2·70	5·70	4·60	.....	0·60	23·74?
	Benares ...	253	0·05	.....	3·40	.....	.....	3·60	13·15	6·12	10·41	6·11	.....	.....	39·84
	Roorkee ...	905	1·94	1·35	3·22	.....	.....	2·43	8·08	6·89	9·04	1·16	.....	1·00	35·11
Northern.	RamporeBeauleah	110	0·50	1·00	0·95	1·00	5·80	18·05	8·20	10·10	16·80	3·10	.....	.....	65·50
	Pubna ...	.....	0·27	0·61	1·92	7·44	7·21	25·88	12·34	12·63	12·08	5·72	.....	.....	86·10
	Máldah ...	160	0·35	0·35	0·72	.....	1·65	23·67	6·98	4·75	14·32	2·20	.....	.....	54·99

Table XII.—Rain-fall in inches, in 1869.—(Continued.)

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	March	April	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Total.
Northern.	Bograh ...	.....	.....	.....	0 50	3·10	10·50	11·60?	23·20	14·80	21·70	4·20	.....	.....	89·60
	Dinagepore ...	.....	0·20	0·15	0·50	1·60	7·90	33·00	21·20	21·80	21·30	4·40	.....	.....	112·05
	Rungpore ...	.....	.....	.....	0·80	2·80	8·90	36·70	17·40	28·50	3·30	0·80	...	.....	99·20
	Julpigoree ...	.....	0·30	0·95	3·60	1·75	10·80	41·09	23·62	49·32	27·55	2 95	0·10	.....	162·03
	Buxa { Bhootan / Doars }	1,800	0·80	2·00	1·50	6·60	25·30	27·30	46·50	83·50	46·50	9·60	?	2·40	252·00?
	Rungbee (Sikkim)	5,000	1·05	0·95	1·90	6·30	11·85	25·05	31·05	47·65	28·90	3·00	.....	.....	157·70
	Rishop (Ditto)	2,000	0·40	0·80	0.80	4·30	6·70	17·20	16·90	27·30	18·80	2·40	.....	.....	95·60
	Darjeeling ...	6,952	0·35	1·04	1·21	4·72	4·10	19·85	21·55	27·29	18·23	2·16	0·02	00·6	100·58
North-Eastern.	Goalparah ...	386	1·84	0·68	0·58	5·75	13·14	22·80	12·36	10·56	16·41	2·02	.....	.....	85.64
	Gowhatty ...	.....	1·70	1·30	2·80	4·90	12·90	8·80	11·83	5·30	12.60	1·50	.....	0·40	64·03
	Shillong ...	4,825	0·20	.....	1·00	4·29	9·37	12·38	11·92	14·77	19·20	8·65	0.15	.....	81·93
	Nowgong ...	.....	7·70	.....	2·50	6·50	5·80	8:80	15·60	20·30	13·70	6·60	.....	.....	87·50
	Tezpore ...	.....	1·06	1·20	0·42	5·10	14·50	9·52	13·36	7·29	12·25	0·53	1·34	0·15	66·72
	Dholebagaun ...	575	4·14	2·65	7·32	6·10	12·20	16·42	16·40	16·84	9·41	11·75	.....	0·76	103·99
	Seebsaugor ...	.....	4·20	1·70	4·20	8·60	20·10	12·80	20·10	14·40	15·10	1·80	.....	0·30	103·30
	Samoogoodting...	.....	1·50	1·00	2 00	2·00	4·25	8·00	3·75	8·50	7·00	3·25	.....	.....	41·25

Eastern.	Dacca ...	22	0·75	0·60	2·25	6·52	8·99	20·78	11 51	7 49	10·49	6·27	.....	.....	75·65
	Mymensing ...	.....	0·55	0·30	2·00	12·40	17·80	18·70	15·20	7·60	19·20	5·72	.....	.....	99·47
	Sylhet ...	.....	0·90	2·10	5·70	20·70	45·90	23·00	20·10	26·50	21·55	12·10	.....	.....	178·55
	Cherrapoonjee ...	4,460	?	?	?	?	104·48	107·20	100·42	123·97	82·70	3·71	?	?	522·48?
	Cachar ...	73	0·70	4·15	3·15	11·60	20·16	10·83	15·66	19·77	11·91	3·86	.....	.....	101·79
	Aenakhall, Hylakandy ...	.....	?	?	?	?	?	14·56	11·62	10·91	16·61	5·37	.....	.....	59·07?
	Tipperah ...	.....	1·65	3·08	4·85	9·45	15·45	12·49	13·82	13·73	6·90	5·18	0·50	.....	87·10
	Noakhally ...	.....	1·11	0·80	2·30	3·10	1·70	12·80	22·70	16·50	17·70	4·50	.....	.....	83·21
	Chittagong ...	108	0·16	1·64	0·52	7·12	8·47	15 18	29·83	22·22	16·70	2·87	.....	0·40	105·11
	Rangamatee Hill (Chittagong Hill Tracts) ...	.....	.....	1·90	1·50	12·55	9·00	12·50	18·20	14·30	12·70	5·70	.. ...	0·50	88·85
S. East.	Akyab ...	10	0·10	?	.....	1·04	6·26	57·58	52·93	33·86	25·45	6·63	.....	0·06	183·91?
	Port Blair ...	218	0·13	1·40	.....	8·22	21·73	28·51	22·52	16·85	27·62	13·71	4·79	4·29	149·77

Table XIII.—Days on which Rain was measured in 1869.

Circuit.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
	Madras	1	.....	.....	.....	.....	7	14	9	14	11	19	10	85
S.-Western.	Pooree	.....	1	2	1	2	10?	13	17	15	14	.....	.....	75?
S.-Western.	False Point	1	3	6	.....	.....	9	26	16	4	14	.....	.....	79
S.-Western.	Cuttack	2	2	6	4	3	14	23	20	16	15	.....	.....	105
S.-Western.	Sumbulpore	1	2	5	.....	1	10	21	15	14	7	.....	.....	76
S.-Western.	Balasore	2	4	11	.....	5	6	20	12	17	14	.....	.....	91
Western.	Midnapore	1	2	9	1	7	6	13	6	10	10	.....	.....	65
Western.	Bancoorah	2	3	6	2	7	9	19	7	11	9	.....	.....	75
Western.	Chyebassa	?	?	?	?	8	9	22	17	21	14	.....	.....	?
Western.	Purulia	?	?	?	?	7	7	21	13	13	6	.....	.....	?
Western.	Burdwan	1	1	2	4	6	7	16	7	8	6	.....	.....	58
Western.	Raneegunge	2	3	6	2	7	5	20	11	24	8	.....	.....	88
Western.	Sooree	...	2	4	.....	3	7	18	13	14	8	.....	.....	69
Western.	Deoghur	?	?	4	1	4	7	16	10	14	5	.....	.....	61?
Western.	Burhee	?	?	?	?	?	3?	20	16	16	7	.....	.....	?
Western.	Hazareebaugh	4	.....	7	.....	5	11	24	16	21	9	.....	1	98

Central.	Saugor Island	2	4	7	.....	5	11	18	15	22	10	.....	.....	94
	Contai	1	1	6	.....	7	6	19	11	17	7	.....	.....	75
	Calcutta	2	4	4	2	8	12	19	15	18	7	.....	.....	91
	Howrah	2	3	5	1	7	9	21	14	21	10	.....	.....	93
	Hooghly	.....	2	4	1	3	8	15	6	15	9	.....	.....	63
	Jessore	2	4	4	3	6	8	20	16	18	8	1	.....	90
	Berhampore	1	1	4	2	6	18	20	14	19	7	.....	.....	92
	Furreedpore	3	2	5	6	7	11	16	11	10	8	.....	.....	79
	Burrisal	2	4	3	2	3	17	21	14	14	5	.....	.. ...	85
N.-Western.	Bhaugulpore	.....	1	2	?	4	9	15	10	12	5	.....	.....	58
	Monghyr	1	1	3	.....	3	9	19	10	12	3	.....	.....	61
	Gya	.....	.....	.....	.....	.....	9	17	18	14	6	.....	1	.....
	Patna	2	1	8	1	4	9	19	14	17	4	.....	.....	79
	Arrah	2	1	3	... ..	1	9	12	10	12	4	.....	.....	54
	Buxar	3	?	1	.....	2	8	19	11	14	4	.....	1	63
	Chuprah	1	.....	2	.....	.....	7	12	10	9	2	.....	.....	43
	Chumparun	.....	.....	?	?	4	5	5	7	9	5	.....	1	36?
	Benares	1	.....	2	.....	.....	3	20	9	17	5	.....	.....	57
	Roorkee	4	3	8	.....	.....	4	11	9	12	3	.....	2	56
Northern.	Rampore Beauleah ...	1	2	3	3	7	11	13	11	14	3	.....	.....	68
	Pubna	4	2	5	8	10	15	24	21	21	9	.....	.....	119
	Maldah	2	2	1	.....	1	15	12	10	15	5	.....	.....	63

Table XIII.—Days on which Rain was measured in 1869.—(Concluded.)

Circuit.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Year.
Northern.	Bograh	.....	...	2	3	10	11?	23	18	19	9	.....	.....	95?
	Dinagepore	2	1	2	2	9	18	11	13	14	3	.....	.....	75
	Rungpore	.....	...	1	4	12	21	18	10	6	2	.....	.....	74
	Julpigoree	1	2	1	5	14	25	19	21	14	5	1	.....	108
	Buxa (Bhootan Doars)	3	3	5	7	15	19	25	28	22	5	?	?	132
	Rungbee (Sikkim) ...	3	1	5	6	15	16	18	25	16	5	.....	1	111
	Rishop (Ditto) ...	1	1	1	7	17	16	20	24	17	8	.....	1	113
	Darjeeling	2	3	5	9	17	23	26	29	24	7	1	2	148
N.-Eastern.	Goalparah	2	2	4	8	19	24	22	18	15	5	.....	.....	119
	Gowhatty	2	2	4	8	16	16	9	10	14	2	.....	1	84
	Shillong	1	...	4	11	18	19	21	21	25	12	1	.....	133
	Nowgong	3	...	2	10	8	11	16	15	13	3	.....	.....	81
	Tezpore	6	5	6	12	21	20	22	23	14	5	1	1	136
	Dholebagaun	11	16	20	18	25	25	26	29	22	15	.....	3	210
	Seebsaugor	11	9	10	13	22	13	19	23	17	8	.....	2	147
	Samoogoodting ...	4	3	5	6	10	15	11	13	12	6	.....	.....	85

Eastern.	Dacca	3	3	5	5	10	15	22	14	16	6	.....	.....	99
	Mymensingh	2	1?	3?	13	12	18	18	14	15	6	.....	.....	102?
	Sylhet	2	4	4	16	24	22	21	23	24	8	.....	.....	148
	Cheerapoongee ...	?	?	?	?	26	24	28	26	19	9	?	?	?
	Cachar	2	9	10	16	18	20	18	25	19	8	.....	.....	145
	Aenakhall Hylakandy...	?	?	?	?	?	23	22	27	23	9	.....	.....	?
	Tipperah	3	5	7	8	13	16	20	17	17	6	1	.....	113
	Noakhally	1?	3?	7	3	7	16	22	19	25	6	.....	.....	109?
	Chittagong	1	7	3	4	14	15	21	25	17	5	.....	1	113
	Rangamatea Hill (Chittagong Hill Tracts) ...	.....	4	4	7	13	16	22	19	19	4	.....	1	109
S.-E.	Akyab	1	?	.....	3	8	24	31	23	20	7	.....	1	118?
	Port Blair	1	1	.....	5	23	28	30	28	30	28	6	9	189

It appears from the above tables that the rain-fall of 1869 was considerably less than that of 1868 in Orissa and the Delta of the Ganges; slightly less in the Eastern and North-Eastern, considerably greater in the Western and North-Western Circuits. In 1868, as I have elsewhere shown, with the barometric depression in the N. W. of the Bay of Bengal, the rain-fall was excessive in the western part of the Delta and Northern Orissa, and the vapour-bearing winds were arrested or drawn aside from their usual course towards the highly heated plains of the North-West and the Punjab.

We have seen [pp. 20, 34] that in 1869, there was a local barometric depression in the elevated country to the west of the Gangetic Delta, and an unusually high temperature during the hot weather months;—that at the entrance of the Assam Valley, the temperature was below the mean and the barometer relatively high, and there was probably a second local barometric depression in Upper Assam. This distribution of pressure did not undergo much alteration during the rainy season, the most important change being a rise of pressure about Hazareebaugh, which, in the latter part of September and the beginning of October, permitted the vapour-bearing winds to pass onward to the North-Western Provinces and Central India, and thus to save those Provinces from the impending disasters of a second year of scarcity, if not absolute famine.

The effect of this state of things on the rain-fall of Bengal will be best appreciated by a comparison of the rain-fall of the year, with the average of several years, since it is only by this means that we can eliminate those permanent differences that depend on the peculiarities of geographical position. Having recently extracted from the Records of the Board of Revenue and those of the Medical Department, all the rain-fall data of past years that are generally consistent with each other and extend over periods sufficient to afford a rough average, I am enabled to institute such a comparison. The averages are given in the following Table, and a comparison of the total rain-fall of 1869 with the average totals in Table XV.

Table XIV.—Average monthly rain-fall of Bengal Stations.

Circuit.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
S. Western.	Pooree	0·11	1·46	0·66	1·40	2·62	7·95	9·04	12·45	9·59	7·43	1·21	0·91	54·83
	Cuttack	0·48	0·51	1·16	1·39	1·59	9·60	11·04	11·22	8·99	5·63	0·90	0·76	53·27
	Sumbulpore	0·19	0·68	0·46	0·25	1·31	9·99	13·22	10·27	6·33	4·79	.....	0·16	47·65
	Balasore	1·18	1·32	2·15	2·34	4·96	12·82	8·94	12·62	13·86	7·42	0·84	.....	68·45
Western.	Midnapore	1·06	0·52	1·51	1·85	6·03	14·02	11·28	11·29	10·10	6·65	0·54	.....	64·85
	Bancoorah	0·44	0·96	1·46	1·95	2·75	10·35	12·47	9·94	8·24	4·50	0·17	0·08	53·31
	Purulia	0·26	0·75	0·58	0·69	0·58	9·51	6·61	9·39	6·75	5·51	0·04	0·29	40·96
	Burdwan	0·64	1·17	1·50	1·88	4·45	11·17	13·31	11·56	8·87	5·67	0·61	0·58	61·41
	Raneegunge	0·32	0·62	1·15	0·54	2·59	11·88	13·71	11·24	11·45	3·36	0·23	.....	57·09
	Soory	0·61	0·67	0·71	0·65	2·10	7·89	12·36	10·81	8·56	4·21	0·17	0·24	48·98
	Hazareebaugh	0·42	0·52	0·75	0·42	1·37	10·99	14·63	11·44	6·26	3·51	0·19	0·02	50·52
	Ranchee	1·02	0·98	1·71	0·58	1·40	6·59	10·12	9·04	5·83	3·50	0·14	0·11	41·02
Central.	Calcutta	0·53	0·72	1·22	2·25	5·43	11·80	13·33	14·18	10·36	5·31	0·67	0·24	66·04
	Jessore	0·27	0·46	1·65	3·95	7·33	12·61	10·95	10·33	9·85	6·47	1·03	0·01	64·91
	Kishnaghur	0·61	0·99	0·77	4·91	8·33	11·84	9·13	9·70	7·94	5·16	0·44	0·22	60·04
	Berhampore	0·38	0·93	1·20	2·41	4·17	9·23	10·23	9·57	8·53	6·11	0·25	0·12	53·13

Table XIV.—Average monthly rain-fall of Bengal Stations.—(Continued.)

Circuit.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
N. Western.	Bhaugulpore	0·54	0·83	0·48	1·03	2·83	8·58	11·57	11·18	8·42	5·34	0·04	0·09	50·93
	Monghyr	0 41	0·69	0·41	0·36	1·71	6·02	10·39	7·85	7·30	3·66	0·06	0·13	39·19
	Gya	1·05	0·62	0·77	0·34	0·90	7·49	12·19	9·47	8·00	3·43	0·07	.....	44·33
	Patna	0·61	1·01	0·30	0·41	0·74	6·51	10·43	7·19	6·02	2·26	0·12	0·06	35·66
	Arrah	1·01	0·62	0·69	0·91	1·24	7·73	14·41	8·96	10·61	2·66	0·28	0·04	49·16
	Chuprah	0·78	0·57	0·54	0·51	1·26	6·26	8·63	7·72	5·96	2 59	0·03	.....	34·85
	Chumparun	0·31	0·37	0 95	0·45	1·11	8·16	9·81	10·53	5·16	3·03	.....	0·14	40·02
	Tirhoot	0·71	0·55	0·60	0·40	1·71	6·07	8·64	9·66	5·72	3·07	.....	.....	37·13
Northern.	Rampore Beauleah ...	0 16	1·39	1·61	2·70	6·21	12·01	12·87	8·85	10·69	6·34	0·42	0·07	63·32
	Maldah	0 92	1·01	1·01	1·96	3·57	8·56	9·58	9·86	10·07	4·40	0·28	0·59	51·81
	Bograh	0·43	1·13	1·10	5·32	9·93	17·26	21·07	12·13	14·82	5·90	1·87	0·11	91·07
	Dinagepore	0·14	0·58	0·56	3·07	9·75	18·95	17·51	14·36	14·81	5·83	0·26	0·02	85·84
	Rungpore	0·16	0·34	0·97	3·30	9·96	23·40	16·53	14·05	11·44	4·47	0·44	0·16	85·22
	Rungbee (Sikkim) ...	1·41	1·66	1·82	6·22	8·35	33·94	46·31	36·70	25·55	8·15	0·16	0·18	170·45
	Darjeeling	0·76	1·60	1·65	3·62	7·01	27·50	29·40	29·09	18·06	6·56	0·20	0·14	129·59

N. Eastern.	Goalparah	0·42	0·76	1·84	4·85	11·72	23·72	21·33	12·67	10·93	5·61	0·39	0·20	94·44
	Gowhatty	0·70	1·43	1·48	7·27	10·92	13·29	13·08	11·98	6·82	3·20	0·47	0·12	70·76
	Shillong	0·23	0·87	2·13	3·76	8·18	20·06	13·44	9·77	18·42	6·97	1·82	0·23	95·88
	Nowgong	1·40	1·45	3·05	5·87	11·01	11·92	15·08	13·20	11·17	4·33	0·65	0·37	79·50
	Tezpore	0·68	0·99	1·91	6·84	9·51	13·83	16·51	13·06	7·91	3·10	0·82	0·92	76·08
	Seebsaugor	1·18	2·43	3·77	10·15	11·04	15·56	14·87	13·88	11·13	4·46	1·29	0·69	90·45
Eastern.	Dacca	0·37	0·91	1·29	7·52	9·81	13·90	13·39	12·33	8·24	6·32	1·08	0·07	75·23
	Mymensing	0·37	1·56	1·54	10·26	15·32	24·34	22·06	14·88	12·46	5·06	0·18	.....	108·03
	Sylhet	0·23	1·59	4·89	14·40	25·04	30·87	25·94	23·61	13·49	8·71	0·82	0·17	149·76
	Cherrapoonjee ...	0·52	3·64	3·89	36·71	76·73	118·90	157·35	80·05	60·47	17·66	3·10	.....	559·02
	Cachar	0·50	3·53	6·09	12·69	16·12	19·55	24·58	16·84	13·90	7·77	1·03	0·79	123·39
	Tipperah	0·77	1·07	2·28	9·28	11·51	20·38	17·11	13·76	10·44	7·04	2·16	0·06	95·86
	Noakhally	0·42	0·83	1·62	4·31	9·07	21·27	16·59	19·55	14·94	7·90	1·79	0·04	98 33
	Chittagong	0·37	1·62	1·31	5·46	9·42	22·92	22·54	23·04	13·01	5·93	2·30	0·55	108·47
S. E.	Akyab	0·43	0·37	0·49	1·38	8·00	65·16	55·75	41·73	24·97	14·67	6·29	0·21	219·45
	Sandoway	0·14	.....	0·24	1·35	14·01	55·32	64·50	51·36	30·91	17·09	1·15	.....	236·07

Table XV.—Comparison of the rain-fall of 1869, with the averages of the preceding Table.

Stations.	Rain-fall, 1869.	Average.	Excess in 1869.	Defect in 1869.
Pooree	44·87	54·83	.....	9·96
Cuttack	48·14	53·27	.....	4·13
Sumbulpore	46·35	47·65	.....	1·30
Balasore	49·77	68·45	.....	18·68
Midnapore	40·60	64·85	.....	24·25
Bancoorah	50·60	53·31	.....	2·71
Purulia	49·11 ?	40·96	8·15 ?	.....
Burdwan	40·60	61·41	.....	20·81
Raneegunge	49·37	57·09	.....	7·72
Soory	76·30	48·98	27·32	.....
Hazareebaugh	48·38	50·52	.....	2·14
Calcutta	62·00	66·04	.....	4·04
Jessore	58·50	64·91	.....	14·41
Berhampore	66·41	53·13	13·28	.....
Bhagulpore.	42·47	50·93	.....	8·46
Monghyr	37·43	39·19	.....	1·76
Patna	44·91	35·66	9·25	.....
Arrah	48·70	49·16	.....	0·46
Chuprah	33·73	34·85	.....	1·12
Chumparun	23·74	40·02	.....	16·28
Benares	39·84	.....	.....	.....
Rampore Beauleah ...	65·50	63·32	2·18	.....
Maldah	54·99	51·81	3·18	.....
Bograh	89·60	91·07	.....	1·47
Dinagepore	112·05	85·84	26·21	.....
Rungpore	99·20	85·22	13·98	.....
Darjeeling	100·58	129·59	.....	29·01
Goalparah	85·64	94·44	.....	8·80
Gowhatty	64·03	70·76	.....	6·73

Table XV.—Comparison of the rain-fall of 1869, with the averages of the preceding Table.—(Concluded.)

Stations.	Rain-fall, 1869.	Average.	Excess of 1869.	Defect of 1869.
Shillong	81·93	95·88	.....	13·95
Nowgong	87·50	79·50	8·00	.....
Tezpore	66·72	76·08	.....	9·36
Seebsaugor	103·30	90·45	12·85	.....
Dacca	75·65	75·23	0·42	.....
Mymensing	99·47	108·03	.....	8·56
Sylhet	178·35	149·76	28·59	.....
Cachar	101·79	123·39	.....	21·60
Tipperah	87·10	95·86	.....	8·76
Noakhally	83·21	98·33	.....	15·12
Chittagong	105·11	108·47	.....	3·36
Akyab	183·91	219·45	.....	35·54

The averages are not deduced from equal periods in all cases,* and it has been shown by the ample discussion of the British rain-fall in the Reports of the British Association,† that the longest of these periods suffices to give only an approximate average; moreover, the original observations are evidently in many cases somewhat rough. But having excluded all that showed great discrepancies, I believe the table may be safely used for the present purpose, *viz.*, to show where the rain-fall of 1869 was generally in excess or in defect of the average. The following facts are thus elicited :—

The fall was less than the average in Orissa, the Gangetic Delta and Arracan. Also in Eastern Bengal (except Sylhet and *probably* Cherrapoonjee,) in Lower Assam, Sikkim and parts of Behar. It was above the average at Sooree and Berhampore, and over a tract of country stretching between the Rajmehal Hills and the Bhootan Doars, including Dinagepore, Rungpore, and probably Julpigoree and Buxa. The rain-fall in Upper Assam seems also to have been in excess of the average, and it certainly was so in Sylhet. The distribution of the rain-fall in June 1869 is shown in *Plate III.*

In so far as any conclusion from our present data is legitimate, it would appear that the area of greatest rain-fall did not coincide with that

* The details of the data will be published in the Journal of the Asiatic Society. With the exception of Calcutta, the registers of which are complete for 32 years, the means are deduced from periods varying from 4 to 14 years.

† British Association Reports, 1867 and 1868.

of barometric depression, but was at 150 miles to the north-east of it. It was very restricted, and in some places, if the data could be trusted in detail, would seem to be sharply defined, *e. g.*, between Sooree and Burdwan; but I am not in a position to say that either of these registers can be implicitly trusted, as their guages have not been tested. A similar strongly marked difference is shown by the neighbouring stations of Sylhet and Cachar, the rain-guages of which I have examined, and know, therefore, to be subject to comparatively trivial errors, while I have full confidence in the general accuracy of their records. But a still more striking difference is that of Calcutta and Howrah; the rain-gauges of which are only two miles apart, on opposite sides of the Hooghly. In this case, however, the difference is mainly due to the partial character of the storms in February and March.*

The relation above remarked between the area of greatest rain-fall and that of greatest barometric depression may possibly be due to the operation of a general law, since it had its counterpart in the preceding year. It will be seen on reference to the report for 1868, [pp. 27 and 48] and to the charts for the months of June and August, 1868, that accompany the present reports, that in these two months, when the barometric depression near Saugor Island was most intense, the rain-fall was greatest at some distance north of the depression. In June [*Plate I*] there fell more than 30 inches at Balasore and Contai, near the coast, in the N. W. corner of the Bay. Over a larger area around that of maximum precipitation, and including Calcutta, Midnapore, Saugor Island, &c., the rain-fall exceeded 20 inches, and over another and less definite zone exterior to the above, it was between 10 and 20 inches. Similarly on the chart for August [*Plate II*] a series of concentric zones, centreing at Hooghly, mark the areas of 10 to 20, 20 to 30, 30 to 40, and more than 40 inches, the last mentioned quantity having been registered only at Hooghly.

The relation thus shown is remarkable, and has not, so far as I am aware, been noticed before; it is difficult to believe it fortuitous, but if it be constant, its cause is by no means obvious. That a heavy fall should occur where the barometer is lowest might be expected, but it is not clear why zones of rain-fall more or less similar in form to the isobaric zones of minimum pressure, should occur at a distance from the former, so that when laid down on the map they suggest the duplicate image of the isobaric lines seen through Iceland spar The only explanation that occurs to me, and which, after all, is merely tentative, is that afforded by the greater momentum of the southerly wind, as compared with those which tend towards the barometric depression from other quarters. In virtue of this superiority an ascending stream of air and consequent precipitation might occur to the north of the depression rather than immediately over it. But a wider basis of fact is required to establish the empirical law; pending which, any discussion of reasons and causes must be premature.

* Of the local character of one of these I had actual experience. On leaving my office on the Calcutta Strand opposite Howrah one afternoon, a few drops were falling, scarcely sufficient to wet the ground. On reaching my house at Chowringhee, rather more than a mile distant, the rain had ceased, but I found the streets and compounds flooded, and 2½ inches had been registered at the Surveyor General's Office, less than a quarter of a mile beyond.

Winds.

As in my report for 1868, I give a summary of the observed wind directions; without taking count of the varying velocities. The readings of a Robinson's anemometer have indeed been recorded at many of the stations, but I am not in a position to say that the instruments are so placed that their readings would be strictly comparable, and while the computation of their mean resultants would entail much additional labour, I believe that, for our present purpose, (the correlation of the leading features of our meteorology,) the simple summation of the number of observations of each wind gives an equally useful datum. When, with the progress of our knowledge, greater refinement becomes necessary, the anemometer records may easily be made available.

In the present report, I have carried the generalization of the wind registers a step further than in that of 1868, having computed the mean resultant of each station for each month of the year; and since this form of exhibiting wind prevalence is the most convenient for showing its relation to the other elements laid down on weather charts, I give a similar table for 1868. The resultants are computed from the data in Table XVI, and the corresponding table in the report for 1868, the sums of the sines and cosines being computed separately for as many of the 32 compass points as are recorded, and the tangent of the wind angle calculated from the sums of all. The prevalence is expressed as a percentage of the total number of observations, and is obtained by the formula.

$$r = \frac{100\sqrt{A^2 + B^2}}{n}$$

When r is the number expressing prevalence, A and B the sums of the sines and cosines respectively, of all the observations, and n the number of observations recorded in each month. On the charts, Plates I. to IV, these resultants are expressed by arrows, the lengths of which correspond to r, $\frac{3}{4}$th of an inch being taken as a maximum = 100.

Table XVI.—Summary of observed wind directions in 1869.

PORT BLAIR.

Two Observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	12	4	6	2	3				2		1	5
N. E.	38	32	23	10	1					4	45	40
East	10	10	11	12	1				1	3	5	8
S. E.	2	9	15	13	6		1		1	9	9	8
South				8	9	4		4				
S. S. W.										42		
S. W.			2	7	33	55	61	53	48			
West			1	3	5			3	6	1		
N. W.		1	4	5	4	1		2	2	3		1
Variable												
Calm												

MADRAS.

Two Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	2				2		1				5	4
N. by E. ..	2					1				1	3	11
N. N. E. ...	4	1								1	11	18
N. E. by N. ...	6										4	3
N. E. ...	19	2			1	1			1	2	12	6
N. E. by E. ...	3									1		3
E. N. E. ...	5	13		1				1		6		7
E. by N. ...	3	4					1		1			1
East	4	8	1		2	1	2	2	4	5	1	
E. by S. ...		1	1	1		1	2	5	1	2		
E. S. E. ...	4	1	11	2	2	2	2	4		2	1	
S. E. by E. ...		3	3	4	1		4	1		1	1	
S. E.	1	8	20	16	5	4	6	6	5	3	1	
S. E. by S. ...	2	3	6	10	13	2		4	2	1		
S. S. E. ...	1	1	7	12	12	1	2	3	1		1	
S. by E. ...		1	1	5	2							
South	1	2	6	3	4		2	2	3	1		
S. by W. ...		1	2	1	4	1	1		2		1	
S. S. W. ...		4	2	1	2			1	3	1		
S. W. by S. ...		1	1					2	1	1		
S. W. ...	2		1	1	4		2	1	3	1	2	1
S. W. by W. ...		1		1	2	2	3	4		3		2
W. S. W. ...					1	9	3	3	4	4		
W. by S. ...						9	7	5	1	3		
West ...					1	7	10	11	15	4	1	1
W. by N. ...					1	7	3	1	2	4		
W. N. W. ...		1				5	4	3	7	6		
N. W. by W. ...					1	2	3		2	1		
N. W. ...					1	4	2		2	5	1	
N. W. by N. ...					1	1		1			4	1
N. N. W. ...	2			2				2		2	7	4
N. by W. ...	1									1	4	
Variable ...												
Calm ...												

AKYAB.

January four Observations, March to August two Observations, September to December four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	3										18	
N. by E. ...									1			
N. N. E. ...	1							4	1		2	1
N. E. by N. ...												
N. E. ...	26		2		2					2	29	30
N. E. by E. ...												
E. N. E. ...												
E. by. N. ...												
East ...	8		13	8	5	4	1		1		2	
E. by S. ...												
E. S. E. ...				1						2	2	
S. E. by E. ...												
S. E. ...	20		2	1	3	8	1	2	1	4	1	
S. E. by S. ...												
S. S. E. ...				2	3	10	47	36	47	52		
S. by E. ...												
South ...	11			5	2	1			31	6		
S. by W. ...												
S. S. W. ...					6	26	11	3		5		
S. W. by S. ...												
S. W. ...	14			5	23	9	2			12	7	
S. W. by W. ...												
W. S. W. ...					1						3	
W. by S. ...												
West ...	14		8	25	7						9	
W. by N. ...												
W. N. W. ...			4	1				1			3	
N. W. by W. ...												
N. W. ...	21		28	7	10			3	7	7	15	14
N. W. by N. ...												
N. N. W. ...				1				11	12	2	9	1
N. by W. ...												
Variable ...												
Calm ...	6											78

Not registered.

FALSE POINT.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	13	1	4	2	1					8	15	17
N. by E. ...												
N. N. E. ...	2	6		1					1	2	3	3
N. E. by N. ...												
N. E. ...	22	15	11		4			5	5	50	63	58
N. E. by E. ...			1				1	2	1			
E. N. E. ...	2	2	1									1
E. by N. ...												
East ...	8	4	3		2			1	2	7	2	9
E. by S. ...			2									1
E. S. E. ...	1	2						4		4		1
S. E. by E. ...					1	6			2	2		
S. E. ...	7	6	3	1	1	17	1	3	14	18	1	6
S. E. by S. ...		1										
S. S. E. ...	2	2	3	2		13			2	3	2	2
S. by E. ...												
South ...	14	1	2	6	11	9	1	3	5	10	1	4
S. by W. ...												
S. S. W. ...	1	5	5	12	24	8	13	4	6	1		
S. W. by S. ...				2	7			1				
S. W. ...	21	38	52	65	58	17	29	61	34		1	
S. W. by W. ...												
W. S. W. ...	3	11	8	12	6	13	17	6	2			
W. by S. ...												
West ...	4	1	14	3	1	14	50	12	3	2	2	1
W. by N. ...												
W. N. W. ...		5	3	3	4	6	10	12	1			
N. W. by W. ...				1								
N. W. ...	2	7	3	2	3	2	2	6	4	3	5	9
N. W. by N. ...												
N. N. W. ...			2	1	1					1	2	3
N. by W. ...												
Variable ...	5		5	5		5			2	7	1	
Calm ...	17	2	2	2		10		2	3	6	2	3

CUTTACK.

Four Observations daily.

WIND.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	2	5	4	2	2	2	7	3	3	15	52	11
N. by E. ...			1		2	1			3	3	2	2
N. N. E. ...									1		1	
N. E. by N. ...	1									1		
N. E. ...	7	20	4	8	5	2	1	3	5	35	15	16
N. E. by E. ...	1										1	
E. N. E. ...	4					1						
E. by N. ...	2	1	1		1	1		1	7	9	2	4
East ...	16	14	7	3	3	6		5	17	26	6	3
E. by S. ...	2		5			3			4	1	1	1
E. S. E. ..	5					2						
S. E. by E. ...	1											
S. E. ...	13	6	15	8	11	18	4	16	7	10	2	2
S. E. by S. ...	4					1						
S. S. E. ...	3								2			
S. by E. ...	5		13	14	18	16	1	2	3	2		
South ...	29	29	30	48	56	27	33	36	30	6	3	
S. by W. ...	2	9	8	11	19	10	7	10	5	1		
S. S. W. ...							6					
S. W. by S. ..	4											
S. W. ...	5	9	12	6	4	13	21	20	8	2	3	
S. W. by W. ...							1					
W. S. W. ...	1						1					
W. by S. ...		2	5	2		4	2	5	5	1		
West ...	7	14	5	6		9	23	15	9	1	12	9
W. by N. ...			5	4		2	4		4	2	1	5
W. N. W. ...												
N. W. by W. ...							4	1				
N. W. ...	8	2	9	6	3	2	5	7	5	8	16	8
N. W. by N. ...	2						2					
N. N. W. ...							2				3	
N. by W. ...		1		1					2	1		1
Variable ...												
Calm ...				1								

SAUGOR ISLAND.

Four Observations daily.

Wind.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	5	7	1	1	2	1		1	3	11	11
N. by E. ...			1									
N. N. E. ...	9	6	2			2	1	2		23	30	15
N. E. by N. ...	1											
N. E. ...	7	5	1	1	1	2				10	38	54
N. E. by E. ...	4											
E. N. E. ...	5	7			2		1		1	19	13	8
E. by N. ...	1											
East ...	7	5	5		1	3			9	10	5	7
E. by S. ...												
E. S. E. ...	10	2	2	2	1		2	4	6	2		
S. E. by E. ...												
S. E. ...	5	3	2		3	2	3	2	7	4	1	1
S. E. by S. ...												
S. S. E. ...	3	1	2	2		6	4	3	5	7		
S. by E. ...												
South ...	5	4	1	1	10	28	7	13	19	20		2
S. by W. ...												
S. S. W. ...	15	20	5	23	28	30	19	11	28	13	1	1
S. W. by S. ...		2	4									
S. W. ...	23	20	35	47	57	11	22	42	29	6	3	4
S. W. by W. ...			3						1			
W. S. W. ...	8	14	27	24	15	13	35	28	11	1	1	4
W. by S. ...		1	2									
West ...	10	7	10	13	3	15	21	15	2	2	1	7
W. by N. ...												
W. N. W. ...	2	1	4	4	1		3	2		2	4	5
N. W. by W. ...												
N. W. ...	2	4	5	2	1	5	2	2	1	2	3	2
N. W. by N. ...			1									
N. N. W. ...	3	5	5			1	3				9	3
N. by W. ...												
Variable ...												
Calm ...												

CHITTAGONG.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	38	17	24	11	5	4		1		14	30	41
N. N. E. ...			4	1	1	1		4	3	2	19	10
N. E. ...	8	19	14	4	2	1	1	2	5	6	22	5
E. N. E. ...	21	7	9	6				1	1	7	6	4
E. by N. ...					1							
East. ...	22	19	4	8	7	7	14	13	14	12	3	
E. S. E. ...			1	1	5	21	39	34	26			
S. E. ...	1	2	1	7	12	29	24	16	16	19		
S. E. by S. ...						1						
S. S. E. ...				8	8	16	8	9	14	3		
South ...	3	14	22	23	21	20	20	12	13	7		
S. S. W. ...			3	17	6	8	5	9	7	1		
S. W. ...	6	13	16	16	28	5	11	17	16	5	2	5
W. S. W. ...	2	2	9	5	9		1	3	3	5	10	4
West ...	22	19	17	11	18	7	1	2	2	15	12	13
W. N. W. ...										7	8	9
N. W. ...	1			1				1		8	4	9
N. N. W. ...				1	1					13	4	24
Variable ...												
Calm ...												

CALCUTTA.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	2	3	4	1		1				3	5	10
N. by E. ...	3									2	7	17
N. N. E. ...	6	4	2			4				5	10	14
N. E. by N. ...												
N. E. ...	5	4			1	1	1			5	3	1
N. E. by E. ...												
E. N. E. ...	5	3	1			4				7	3	4
E. by N. ...	3	2	1		1				2	1	2	
East ...	4	3	1			1	3	1	3	5	1	
E. by S. ...	3				1		2	2	6	6		1
E. S. E. ...	3			2	4	1	6	6	9	6	1	
S. E. by. E. ...												
S. E. ...	5		7	2	3	7	11	5	19	8	3	
S. E. by S. ...												
S. S. E. ...	12	7	5	4	5	28	11	11	22	21		
S. by E. ...	7	1	3	5	18	18	20	17	16	9	2	
South ...	3	8	9	11	33	19	24	38	24	4		1
S. by W. ...	5	4	9	14	20	12	19	14	7	4		
S. S. W. ...	8	17	17	43	24	8	19	20	10		2	
S. W. by S. ...												
S. W. ...	16	17	25	28	2	6	5	2	1	2	4	
S. W. by W. ...												
W. S. W. ...	6	10	12	3	4	2	1	3			9	6
W. by S. ...	2	4	1	4	1	1	2	1		4	7	6
West ...	3	6	10	2		1		1		7	11	7
W. by N. ...	3	1	4		2	3				8	16	21
W. N. W. ...	9	7	4		2					6	13	12
N. W. by W. ...												
N. W. ...	4	4	6		1	2				3	2	8
N. W. by N. ...												
N. N. W. ...	6	6		1	1					2	7	6
N. by W. ...	1	1	1		1					6	12	10
Variable ...												
Calm ...												

JESSORE.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	19	4	3	1	2					13	33	73
N. N. E. ...										7	7	3
N. E. ...	25	6	11		3	6			1	21	45	15
E. N. E. ...						1				2	3	2
East ...	7	4	1	2	11	7		7	8	12	13	6
E. S. E. ...						8	8	4	9	14	2	
S. E. by E. ...							1					
S. E. ...	10	12	6	29	29	45	44	26	61	31	4	1
S. S. E. ...						2	15	14	9	4		
South ...	7	1	4	17	35	35	35	37	26	2		
S. S. W. ...						7	10	12	2			
S. W. ...	4	12	21	35	37	4	7	12	3	1		1
W. S. W. ...							1	3				
West ...	5	5	5	7	5	2	2	5	1	3	2	
W. N. W. ...								1		2		
N. W. ...	47	68	63	27	2	3	1	3		9	7	11
N. N. W. ...										3	4	12
Variable ...												
Calm ...												

DACCA.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	9	4	2	5	3					8	18	13
N. N. E. ...	10	3	1	4	2	1				3	11	5
N. E. by N. ...									1		1	
N. E. ...	17	6	5		4	2			6	17	11	4
E. N. E. ...	2	3	4		1	3			3		1	
East ...	6	5	6	6	4	3	4	1	11	2		2
E. S. E. ...	3	1	3	1	10	14	18	5	6	3		2
S. E. ...	7	6	5		39	59	40	10	26	7	5	2
S. S. E. ...	6	3	4	18	17	33	55	31	22		3	2
South ...	12	18	18	48	25	2	6	61	13	1	2	2
S. S. W. ...	9	10	19	19	7	1		11	8	4	3	4
S. W. ...	5	21	26	5	6		1	4	7	5	1	5
W. S. W. ...			3						2	1		1
West ...	8	8	12	3							3	7
W. N. W. ...	14	15	10	5						3	2	16
N. W. ...	7	7	3	4	1	1			2	17	17	22
N. N. W. ...	2	1	3	2	4	1				1	4	5
Variable ...												
Calm ...	4							1	8	49	38	31

CACHAR.

January to July two Observations, other months four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1		3	1	Not registered.	Not registered.	2					
N. N. E. ...											2	
N. E. ...	5	4	6	9			5					
E. N. E. ...											19	15
East ...	11	7	7	6			5	7			4	6
E. S. E. ...							2		3	7	5	53
S. E. ...	14	14	17	10			9	6	8			4
S. S. E. ...							1		11		57	44
South ...	7	7	4	7			7	8	4	28		
S. S. W. ...							4	13	30	21		2
S. W. ...	22	22	23	27			7	23	18	9		
W. S. W. ...							7	47	14	54	33	
West ...	1		2				3	4	3	3		
W. N. W. ...							4		29	2		
N. W. ...	1						4	7				
N. N. W. ...								9				
Variable ...												
Calm ...												

SHILLONG.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...					10	16	24	5	14	17	14	15
N. N. E. ...										1	1	3
N. E. ...							1			4	3	3
E. N. E. ...					2				1		2	4
East ...					10	16	14	3	11	15	19	14
E. by S. ...					1							
E. S. E. ...										2	10	
S. E. ...					3	2	10	8	15	3	14	11
S. S. E. ...					1					4	5	15
South. ...					13	18	7	1	7	14	14	12
S. S. W. ...					1					8	6	3
S. W. ...					51	34	23	10	8	10	4	5
W. S. W. ...					3			1		1	2	
West ...					12	17	20	47	27	12	1	1
W. N. W. ...										1	5	1
N. W. ...					11	16	20	41	26	20	13	22
N. W. by N. ...									1			
N. N. W. ...					1					12	6	15
Variable ...												
Calm ...												

GOÀLPARAH.

March and April two Observations, all other months four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	4	5	4	4	6	2	4	4	3	3	8
N. N. E. ...		3	1			1	2				2	4
N. E. ...	6	2	3	6	5	9	4	8	7	3	3	6
E. N. E. ...	12	4	3	2	1	5	5		9	7	3	4
East ...	55	14	18	25	82	43	30	17	40	48	77	52
E. by S. ...	1											
E. S. E. ...	8	10			2	4		3	5	6	2	25
S. E. ...	6	4			1	3	1	2	2	5	2	8
S. S. E. ...		2						5	2			2
South ...				1	4	5	21	25	11	18	7	2
S. S. W. ...	1	2		1		9	8	6	2	3	1	
S. W. ...	4	2	1		1	2	3	12	5	7	2	3
W. S. W. ...		11		4	2	4	3	1		2	1	1
West ...	13	20	27	8	13	17	31	23	20	21	14	3
W. N. W. ...		2	1	2	1	4	3	5	1		3	
N. W. ...	6	4	2	3	8	8	9	7	6	1		3
N. N. W. ...	1	1	1	4			1	6	6			1
Variable ...												
Calm ...												

DARJEELING.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...				1	1						1	
N. N. E. ...												
N. E. ...							1	1				3
E. N. E. ...	1								1			
East ...	21	30	27	38	30	49	52	52	50	42	34	33
E. S. E. ...	8	13	7	10	8	3	12	9	6	6	12	14
S. E. ...	19	5	9	11	12	15	35	10	22	12	19	13
S. S. E. ...		1					1					
South ...	2	2	4	6	3	2	2	4	5	3		5
S. S. W. ...												
S. W. ...	15	8	18	19	15	9	2	8	9	6	11	14
W. S. W. ...	1	3	1		3	2	1		1	4	3	5
W. by S. ...							1				1	
West ...	46	35	49	33	47	39	16	34	24	42	24	28
W. by N. ...					1						1	
W. N. W. ...	4	4	1	1	2		1		1	3	10	6
N. W. ...	6	9	8	3	2	1		6	1	6	4	3
N. N. W. ...												
Variable ...												
Calm ...				1								

BERHAMPORE.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	20	4	4		1	2		1	1	5	9	16
N. N. E. ...	8	3	2			6	1			3	4	10
N. E. ...	22	6	7	3	2	5		1	2	2	4	11
E. N. E. ...	3	5	2	2	4	3	3	4	5	8	3	1
East ...	4		4	13	22	11	41	9	26	14	4	2
E. S. E. ...	5		1	6	25	20	12	21	24	9	4	
S. E. ...	5	6	10	12	19	19	28	18	29	14	7	
S. S. E. ...	1	7	3	6	12	14	17	18	12	3	3	
South ...	1	6	2	19	19	18	11	18	8	2		1
S. S. W. ...	3	6	12	13	4	8	3	11	8	3	4	1
S. W. ...	7	14	21	18	5	5	3	17	4	5	5	2
W. S. W. ...	4	7	22	10	4	2		2		13	1	2
West ...	6	12	4	5	6	3	2	1		13	17	5
W. N. W. ...	7	7	9	5		2	1	1		9	13	15
N. W. ...	13	16	13	7	1	1	2	1	1	9	14	36
N. N. W. ...	14	13	8	1		1		1		12	28	22
Variable ...												
Calm ...												

MONGHYR.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...					2	1	1	7	5	8	11	1
N. N. E. ...					4	10	1		7	2	1	
N. E. ...					23	23	23	3	6		3	5
E. N. E. ...					15	17	11	18	19	10	2	3
East ...					14	14	21	13	17	6	1	
E. S. E. ...					14	21	29	27	35	7		3
S. E. ...					12	22	18		5	5		2
S. S. E. ...					6	1			12	5		1
South ...							1	5	3	6	1	
S. S. W. ...							1	4	1	5	1	3
S. W. ...					4	2		8	1	24	14	31
W. S. W. ...					1	4	2	4		10	5	13
West. ...					9	3	3	13		28	37	26
W. N. W. ...					3	1	4	4	5	4	2	1
N. W. ...							1	2			2	2
N. N. W. ...					1					1	1	2
Variable ...												
Calm ...						1	7	14	3	3	35	29

HAZAREEBAUGH.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	7	3	4	6	8	3	2	2	1	7	12	7
N. by E. ...												
N. N. E. ...	2	1			1	4		2	1	2	5	3
N. E. by N. ...								2			1	
N. E. ...	2	1		5	1		1	5	2	2	9	6
N. E. by E. ...												1
E. N. E. ...	1		1	1	3	1	3	2	1	3	4	4
E. by N. ...			1				2		2		1	
East ...	5	1	3	4	10	2	19	5	14	4	2	
E. by S. ...			1				4	2	7	2		
E. S. E. ...		2	2	2	3	4	5	7	14	4		
S. E. by E. ...			1			1	5		3	4		
S. E. ...	3	1	3	6	10	15	11	12	21	16	1	6
S. E. by S. ...						3		1	4	4		
S. S. E. ...	12	5	5	3	14	13	9	7	12	3	1	3
S. by E. ...		1	2			4	1	2	3	3		1
South ...	15	5	6	4	23	22	16	12	11	3		
S. by W. ...						1		3	1			
S. S. W. ...	3	1	4	2	7	4	7	9	7		2	2
S. W. by S. ...			3			2		1		1	1	
S. W. ...	8	6	15	7	7	7	4	14	3	4	4	10
S. W. by W. ...			1						1		1	
W. S. W. ...	7	8	4	8	7	1	4	7	4		2	6
W. by S. ...		1	1			2	1					2
West ...	16	24	28	20	7	10	8	12	2	10	17	15
W. by N. ...				1		2	2			2	7	4
W. N. W. ...	12	16	13	20	10	7	11	7		9	9	14
N. W. by N. ...		4	2	8		2	1	1		4	1	6
N. W. ..	20	23	18	18	9	6	6	7	1	23	23	22
N. W. by N. ...		1	1			1				6	5	4
N. N. W. ...	10	8	5	5	3	3	2	2	2	8	11	7
N. by W.	1								2	1	1	1
Variable ...												
Calm ...												

GYA.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...						5	3	2		4	26	3
N. N. E. ...						2	2				1	
N. E. ...						12	9	2	7	11	9	5
E. N. E. ...						9	8	1	6	2	4	
East ...						20	34	25	55	15	7	11
E. S. E. ...						7	15	10	17	5	2	2
S. E. ...						14	11	5	13	7	5	
S. S. E. ...						6		2	2			
South ...						3	6	8	5	16	5	3
S. S. W. ...							5	7		6	4	
S. W. ...						6	5	15	3	9	5	3
W. S. W. ...						2	4	5	1	2	1	2
West ...						19	8	14	3	15	14	54
W. N. W. ...						1	2	8		13	7	6
N. W. ...						5	1	1	2	8	8	17
N. N. W. ...						1	2	1				1
Variable ...												
Calm ...												

PATNA.

Four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	7		1	3	23	10	2				5	3
N. N. E. ...	5	3		8	22	51	16				12	1
N. E. ...	3		3	7	9	2	6			3	5	1
E. N. E. ...	3			2	2		24		2	5	5	12
East ...	7	9	2	1	1		9		8	4		1
E. S. E. ...	1			1				44	66	26	6	7
S. E. ...			1		1			19	34	10	1	1
S. S. E. ...				1				11	3	13	5	4
South ...								24	1	4		
S. S. W. ...	1							11	1	17	10	3
S. W. ...	7							7	1	8	3	2
W. S. W. ...	10				1			4	1	14	12	21
West ...	20	16	5		1					4	1	18
W. N. W. ..	27	21	25	7	2	3	6		1	12	30	30
N. W. ...	15	24	37	30	11	11	10	2		2	8	7
N. N. W. ...	18	39	50	59	51	43	51	2	2	2	17	13
Variable ...												
Calm ...												

BENARES.

Two Observations from January to November; December, four Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	8	3	10	14	9	5	4	4		3	5	7
N. E. ...	5	7	9	7	10	14	8	5	11	7	12	5
East ...	8	5	8	3	13	18	22	13	32	15	7	20
S. E. ...	2		1	1		4	5	2	4	1	1	2
South ...	2		3				4	1	3	1	1	2
S. W. ...	3	5	3	3	1	2	5	3	1	2	1	
West ...	22	22	8	14	11	8	9	20	6	20	13	23
N. W. ...	6	13	18	18	16	9	2	9	3	13	10	11
Variable ...												
Calm ...	4	1	1		1		3	4			7	49

ROORKEE.

Two Observations daily.

Wind.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...		1	1		2		3		1		1	1
N. E. ...	4	3	7	1	3	1	1	2	6	4		5
East ...		2	8		1	1	2	2	7	1		
S. E. ...	6	1	3	11	19	21	25	20	20	4	5	9
South ...	5	1	6	1	1	3	7			4	3	
S. W. ...	12		6	4	3	2	4	4	4	1	1	3
West ...	2	19	23	24	8	10	3	1	1	3	3	12
N. W. ...	8	12	3	14	17	16	4	8	4	15	4	7
Variable ...												
Calm ...	25	17	5	5	8	6	13	25	17	30	43	25

Table XVII.—Monthly Wind

Stations.	January.		February.		March.		April.		May.	
Port Blair	87	N 45° E	78	N 60° E	56	S 67° E	27	S 54° E	31	S 39° W
Madras	72	N 54 E	62	S 77 E	89	S 36 E	83	S 32 E	63	S 11 E
Akyab	2	N 40 E			42	N 36 W	42	S 82 W	50	S 49 W
False Point	24	S 79 E	27	S 50 W	47	S 68 W	80	S 46 W	63	S 15 W
Cuttack	42	S 33 E	25	S 16 E	46	S 2 W	58	S 5 W	79	S 6 E
Saugor Island	18	S 14 W	32	S 49 W	60	S 42 W	83	S 51 W	82	S 38 W
Chittagong	29	N 23 E	11	N 52 E	10	N 87 W	38	S 11 W	52	S 42 W
Calcutta	14	S 22 W	41	S 52 W	60	S 42 W	87	S 24 W	82	S 7 W
Jessore	43	N 9 W	71	N 34 W	48	N 58 W	42	S 34 W	55	S 11 E
Dacca	6	N	32	S 45 W	45	S 34 W	58	S 5 W	69	S 31 E
Cachar	45	S 15 E	53	S 8 E	42	S 11 E	43	S 1 E		
Shillong									45	S 52 W
Goalparah	50	N 83 E	20	S 85 E	26	N 32 W	30	N 48 E	55	N 84 E
Darjeeling	25	S 44 W	11	S 36 W	29	S 55 W	23	S 17 E	24	S 38 W
Berhampore	43	N 3 W	32	N 84 W	39	S 66 W	45	S 9 W	63	S 43 E
Monghyr									44	N 89 E
Hazareebaugh	35	W	62	N 75 W	52	S 83 W	50	N 73 W	32	S 27 W
Gya										
Patna	61	N 56 W	77	N 42 W	87	N 39 W	85	N 22 W	84	N 7 W
Benares	48	N 88 W	50	N 60 W	40	N 18 W	58	N 35 W	58	N 5 W
Roorkee	21	S 43 W	45	N 65 W	24	S 73 W	47	S 87 W	15	N 37 W

Resultants for 1869.

June.		July.		August.		September.		October.		November.		December.	
97	S 43° W	98	S 44° W	93	S 46° W	83	S 51° W	66	S 10° W	83	N 58° E	68	N 47° E
55	S 85 W	35	S 59 W	34	S 26 W	47	S 57 W	16	N 64 W	68	N 15 E	80	N 23 E
77	S 3 W	92	S 14 E	37	S 21 E	48	S 11 E	52	S 9 E	58	N 8 W	26	N 20 E
53	S 25 W	72	S 67 W	63	S 56 W	42	S 39 W	52	N 65 E	63	N 35 E	64	N 39 E
58	S 3 E	58	S 49 W	55	S 19 W	30	S 17 E	55	N 59 E	62	N 4 W	50	N 4 E
65	S 32 W	74	S 55 W	77	S 47 W	68	S 11 W	29	S 80 E	75	N 28 E	60	N 30 E
75	S 27 E	74	S 40 E	58	S 35 E	60	S 35 E	11	N 10 W	58	N 3 W	71	N 22 W
70	S 6 E	84	S 5 E	85	S 1 E	85	S 23 E	18	S 39 E	50	N 50 W	64	N 34 W
72	S 30 E	82	S 18 E	96	S 7 E	85	S 35 E	47	N 70 E	75	N 31 E	80	N
87	S 45 E	94	S 37 E	90	S 9 E	60	S 33 E	18	N 4 E	33	N 3 W	40	N 45 W
		27	S 18 W	64	S 47 W	65	S 44 W	79	S 39 W	50	S 17 E	85	S 56 E
33	S 63 W	24	N 73 W	63	N 70 W	25	N 70 W	18	N 60 W	18	S 75 E	11	N 30 E
27	N 86 E	15	S 32 W	24	S 36 W	23	N 87 E	35	S 56 E	55	S 88 E	66	S 89 E
20	S 36 E	61	S 64 E	23	S 57 E	40	S 54 E	11	S 4 W	18	S 32 E	21	S 13 E
57	S 38 E	74	S 52 E	64	S 23 E	75	S 53 E	5	N 56 E	45	N 41 W	71	N 22 W
63	N 86 E	61	S 89 E	23	S 57 E	63	S 84 E	34	S 51 W	42	N 84 W	47	S 66 W
40	S 15 W	32	S 18 E	32	S 19 W	62	S 42 E	19	N 46 W	58	N 39 W	85	N 60 W
23	S 84 E	42	S 77 E	23	S 1 E	72	S 78 E	11	S 36 W	28	N 19 W	50	N 75 W
90	N 3 W	72	N 6 E	73	S 29 E	88	S 60 E	29	S 5 E	40	N 49 W	47	N 71 W
37	N 41 E	27	E	22	N 48 W	57	N 8 E	27	N 35 W	33	N 22 W	13	N 21 W
15	N 40 W	39	S 29 E	21	S 39 E	35	S 64 E	16	N 52 W	8	S 41 W	8	N 83 W

Table XVIII.—Monthly Wind

Stations.	January.		February.		March.		April.		May.	
Port Blair ...	81	N 49° E	71	N 42° E	63	N 72° E	48	S 52° E	26	S 18° W
Madras ...	94	N 49 E	68	S 66 E	76	S 46 E	80	S 23 E	71	S 10 E
Akyab ...	40	N 16 W	45	N 16 W	42	N 32 W	13	S 63 W	10	N 63 W
False Point ...	56	N 56 E	12	S 2 W	50	S 40 W	77	S 37 W	81	S 24 W
Cuttack ...	53	N 86 E	32	S 46 E	47	S 4 E	65	S 7 E	70	S 11 E
Saugor Island ...	51	N 6 E	2	N 80 W	50	S 64 W	67	S 3 W	85	S 5 W
Chittagong ...	43	N 56 W	36	N 44 W	50	S 51 W	68	S 3 E	65	S 20 W
Calcutta ...	50	N 5 W	30	N 29 W	27	N 29 W	67	S 9 W	80	S 5 E
Jessore ...	84	N 40 W	32	N 41 W	45	N 78 W	53	S 21 W	60	S 19 E
Dacca ...	72	N 24 W	48	N 64 W	47	S 38 W	60	S 12 E	43	S 32 E
Darjeeling ...	26	S 8 W	25	S 42 W	32	S 72 W	32	S 80 W	29	S 67 W
Berhampore ...	80	N 28 W	61	N 52 W	53	N 65 W	26	S 32 E	47	S 62 E
Hazareebaugh ...	60	N 57 W	64	N 26 W	60	N 77 W	43	N 69 W	11	S 87 W
Patna ...	71	N 69 W	62	N 74 W	40	N 57 W	30	N 28 W	43	N 60 E
Benares ...	27	N 48 W	61	S 88 W	40	S 53 W	60	N 80 W	40	N 21 E
Roorkee ...	43	S 64 W	30	S 62 W	35	N 65 W	17	S 77 W	31	S 6 E

Resultants for 1868.

June.		July.		August.		September.		October.		November.		December.	
90	S 35° W	90	S 47° W	87	S 45° W	77	S 57° W	5	S 22° E	32	N 82° E	49	N 37° E
33	S 30 W	47	S 69 W	55	S 73 W	40	S 49 W	29	N 72 E	45	N 11 E	24	N 24 E
43	S 5 W	50	S 16 E	31	S 12 W	43	S 36 E	13	N 16 E	15	N 32 E	26	N 48 E
6	S 47 W	68	S 55 W	50	S 87 W	40	N 83 W	31	N 7 E	67	N 31 E	42	N 32 E
48	S 35 W	47	S 47 W	42	S 79 W	17	S 39 W	32	N 8 W	33	N 8 W	24	N 68 E
77	S 29 W	72	S 12 W	45	S 37 W	37	S 12 W	43	N 40 W	68	N 22 E	29	N 46 E
51	S 20 W	76	S 24 E	53	S 14 E	51	S 46 E	32	S 85 E	47	N 48 E	45	N 13 E
75	S 14 W	89	S 2 E	61	S 24 W	68	S 18 E	24	S 43 W	10	N 42 W	11	N 20 W
57	S 6 W	74	S 22 E	27	S 16 E	55	S 12 E	48	N 15 E	73	N 9 W	66	N 5 W
73	S	82	S 10 E	64	S 1 W	62	S 19 E	24	N 53 E	52	N 20 E	52	N 12 W
15	S 17 E	22	S 24 E	26	S 34 E	20	S 54 E	24	S 58 W	8	N 54 W	18	S 55 W
53	S 38 E	69	S 31 E	32	S 19 E	51	S 39 E	35	N 64 W	65	N 20 W	66	N 13 W
28	N 61 W	22	S 23 E	45	S 70 W	20	N 80 E	76	N 73 W	48	N 72 W	8	N 62 W
8	S 20 E	17	N 62 E	45	N 76 W	47	N 56 E	47	N 45 W	58	N 60 W	42	N 47 W
20	N 79 W	22	N 53 W	17	N 70 W	22	N 39 E	29	N 47 W	57	N 62 W	40	N 61 W
20	S 21 W	11	S 5 E	22	S 87 W	5	N 65 W	2	N 70 W	10	S 77 W	3	E

So little has been put on record respecting the winds of the Indian Peninsula,* except those of the coasts, that it seems desirable to preface any observations on the peculiarities of the winds of Bengal in 1869, by a cursory sketch of the normal characters of its monsoons. Certain of these have been briefly adverted to already in a previous part of this report; more particularly the probable existence of a focus of alternately low and high pressure (in the opposite monsoon seasons) over the interior of Hindoostan, in consequence of which the winds have, on the whole, a centripetal direction during the SW. monsoon and (less markedly) a centrifugal tendency in the NE. monsoon. In the former season the winds are SW. over the Bay, and in the eastern districts of Bengal only. Along the Arracan coasts and in the interior of Orissa and Lower Bengal their direction turns to S. and SE., and they blow up the Gangetic plain as ESE. winds. In the NE. monsoon these directions are precisely reversed. The winds therefore conform to that direction which gives its name to the monsoon, with the exception above noticed, *only over the open sea;* while on the Arracan coasts and still more in the interior of Hindoostan, their mean direction is almost at right angles to the former. In Eastern Bengal the average direction is approximately the same as over the Bay of Bengal, viz., SW. and NE. in the corresponding monsoons. But Assam appears to present an exception in the earlier part of the former season, since at that period the winds blow on the whole down the valley instead of up it.

It appears probable then, that while the Hindoostan monsoons are produced by causes whose seat is in the interior of the peninsula, the termination of the great Himalayan barrier at the Dihong river in Upper Assam (E long. 94°) allows the influence of Central Thibet to operate in directing the winds of Eastern Bengal towards that region. Hence at Cachar and Shillong, and during the height of the monsoon at Goalparah and Dholebagaun, SW. winds predominate. In the hot weather months, as is well known, easterly winds are frequent in Assam, and are undoubtedly determined by the lower temperature of the valley as compared with the plains of Bengal.

In the SW. monsoons of 1868 and 1869, considerable deviations from the normal directions were produced by the irregular barometric depressions described at p. 20. In the former year a predominance of westerly elements is to be remarked in the winds of False Point, Cuttack, Saugor Island, Calcutta and Hazareebaugh; more especially in the months of June and August. [See Table XVIII and Plates I and II.] At Jessore this was the case in June; and in August, when the Saugor Island depression was most intense, north-westerly winds occurred with unusual frequency for this month. At Dacca the prevailing direction was South in both months, instead of SSE., which is probably the normal direction; and at the NW. stations Patna and Benares, westerly winds were equal to or in excess to those of East and ESE. The influence of the barometric depression was therefore very great, and sufficiently explains the general distribution of the rain-fall already described.

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* Some particulars are given by Capper, "Winds and Monsoons," p. 56. See also Coffin, "Winds of the Northern Hemisphere," p. 165 and Buchan "Trans. Roy. Soc. Edinburgh," Vol. XXV., p. 623.

In 1869, there was an unusual prevalence of southerly winds in the first two months of the year, to which may probably be attributed, in part, the prevailing excess of temperature over the corresponding months of 1868, already noticed at page 34. In May and June the principal deviation from the normal directions is shown in the predominance of westerly winds at Hazareebaugh, north-easterly at Monghyr, and of northerly winds at Patna and Benares, which may undoubtedly be attributed to the Hazareebaugh and Monghyr depression; these directions, as well as those of the winds at the delta stations, being in exact accordance with Buys Ballot's law, with a minimum pressure between the two last named stations. In July and August with the relative rise of the barometer at Hazareebaugh and the contraction of the area of depression, the winds generally drew round more to the eastward, and in September, in the latter part of which month the rains reached the N. W. Provinces in abundance, the general direction throughout Bengal was between SE. and ESE.

The later months of the year will be more fitly considered in the report of the year now current, in connection with the remaining months of the NE. monsoon. The early months of the present year have shown some rather marked irregularities, the earlier conditions of which are only slightly indicated in the tables now published; and from what has already been said, it will be apparent that each monsoon season should be considered as a whole.

Storms.

The year 1869 has been somewhat remarkable for the number of Cyclones that have been felt in Bengal or on its coasts. Three of these occurred at the commencement of the SW. monsoon in May and June, and one at its close, in October. I do not propose here to enter on a detailed discussion of the phenomena of these storms, for which, however, considerable materials have been collected and in part worked up. A brief account of them, their place of origin (as far as known) and of their tracks, forms, however, a fitting pendant to the discussion of the general Meteorology of the year.

Storm of the 1st May.—The first storm was quite local and restricted to the NE. corner of the Bay. It was met with by the S. S. "Moulmein" on the afternoon of the 1st May, on her passage from Calcutta to Chittagong. At midnight on the 30th April, the weather was cloudy but fair, with a moderate SE. breeze, the barometer (reduced and corrected), being 29·85. At 4 A.M. of the 1st May, when she was in 21° 10′ N. Lat., 90° E. Long., there was a change. There were light airs, the sky was cloudy and threatening, and it lightened. At half-past 4, heavy squalls of wind and rain came from the NE., and at 6h. 15m. the wind was veering to the North and increasing fast; the barometer having fallen to 29·80 (corrected and reduced.) At 7h. it was blowing a strong gale with a high short sea. From 8 A.M. the barometer fell steadily, and reached its lowest reading, 29·49, at half-past 4 P.M.; the wind

having in the mean time veered from ENE. to NNW. By 10 P.M. the wind had got round to W., and the barometer had risen to 29·84.

At Chittagong the barometer reached its minimum at 19h. 50m. in the evening of the 1st May. The wind was at first NE. and veered to NW. The storm lasted 4 or 5 hours, and appears to have been not more violent than an ordinary Nor'Wester. Several thatched houses suffered, and a few trees of 3 feet in girth were blown down. A rise of water, amounting to about 2 feet, was observed, which was probably the effect of a small storm wave.

At Akyab, the wind was light from the West in the last days of April. The barometer fell about ·05 from the 26th to the 29th, and rose somewhat less from the 29th to the 1st. On the morning of the 1st the wind was from SE., and from this to 16h. blew fresh to strong (3 to 4 on Beaufort's Scale of 1 to 6), veering round by South to SW. and NW. with rain. On the two following days it continued from NW. and NE. At Calcutta, the barometer was unaffected, and the wind from South or SSW., except that, on the afternoon of the 1st, it chopped round to E. for a few hours.

It appears, therefore, that the Cyclone, for such it evidently was, was quite of local origin, and of less than a day's duration. In all probability it was nothing more than an eddy of the SW. wind, re-curving from the Arracan Hills, but it is not on that account of the less interest.

Storm of the 13th-17th May.—The second storm commenced on the night of the 12th, or early in the morning of the 13th May, close to Cape Negrais. I have been unable to ascertain satisfactorily the state of the atmospheric pressure in this region, previously to the formation of the storm. Some observations of two steamers, belonging to the British Indian Steam Navigation Company, would seem to indicate the existence of a slight local depression in the Gulf of Martaban, and to the west and north of Cape Negrais; but the instruments are not sufficiently trustworthy to establish the fact in a satisfactory manner. A SW. breeze had been blowing pretty steadily over the greater part of the Bay for some days before to the 13th. Its mean direction was SSW. in the North of the Bay, SW. in the middle, and Westerly or WSW. below the latitude of Madras. In the neighbourhood of the Andamans, Cape Negrais and Rangoon, a Northerly or North-Westerly wind was felt occasionally during the 10 days previous, but it was unaccompanied by any fall of temperature, and would seem to have been a local deflection of the SW. wind.

On the 13th the vortex was almost stationary, close to Cape Negrais, but rapidly increasing in strength and size. It then moved to north-west on a track about parallel with the general trend of the Arracan coast, and the centre reached the margin of the Soonderbuns about 2 P.M. of the 16th. It passed not far to eastward of the light-ship at the Mutlah Sandheads, between noon and 1 P.M., the barometer (uncorrected for error, but reduced for temperature) standing at 28·72 during its passage. Thence the mean track of the storm appears to have been about NbE. since the centre passed to the West of

Khoolnah and over Narail, where a lull of half an hour and an entire calm of 10 minutes was experienced at the height of the storm. The storm wave struck the coast to the right of the storm track, and passed up the open estuary of the Hurringottah, submerging the estate of Morellgunge to a depth of 7 feet, with salt water, and drowning 148 persons and 2,868 head of cattle on the Morellgunge estate alone. The flood extended over a great part of the southern portion of the Jessore and Backergunge Districts, the height above the land surface varying from 7 feet downwards. It rose slowly over the inhabited portions of the country, not in a sudden wave, as was the case of the 1864 Cyclone wave on the more exposed shore of the Hooghly estuary; and the loss of life and cattle, therefore, was comparatively small. This may be attributed to the protection afforded in the present case by the tracts of unreclaimed forest land which lie along the outer Soonderbunds, and which must have borne the first onset of the storm-wave. Dakhin Shabazpore at the mouth of the Megna estuary, is more exposed, and was inundated by the wave, but this lay far to the eastward of the central storm track.

The centre passed over Narail at 11h. 30m. P.M., the wind being from north-east up to the passage of the calm, and from south-west afterwards. An excellent series of barometric observations, recorded every 10 minutes throughout the storm at Jessore, by Baboo Dwarkanath Roy, shows that the barometer (reduced and corrected) stood at 28·760 at 11h. 40m. P.M., the wind being from north and north-east. Jessore is about 18 miles west of Narail.

The further track of the storm lay a little to west of Furreedpore, and the centre crossed the Ganges between that station and Goalundo about 2 A.M. of the 7th. The steamer "Princess Alice," lying a few miles above Furreedpore, was close to, if not on the line of, the central track. At Dacca the observations of the meteorological observer show that at 4 A.M. of the 17th the barometer stood at its minimum 29·202 (corrected and reduced to sea-level) the wind being then from south-east. This would seem to show that the centre travelled slowly in a NE. direction after crossing the Ganges.

At Mymensing the gale was at its height at 6h. 30m. A.M. Here an aneroid is stated to have fallen as low as 28·2, but there is undoubtedly a considerable error in the readings of the instrument. Beyond this the storm cannot be traced. It probably broke up along the line of the Garrow Hills, as is usually the case with storms that follow a *northerly* track.

Storm of the 5th-10th June.—The earliest account I have of this storm is afforded by the log of the B. I. S. N. Steamer "Punjab" on her voyage from Rangoon across the Bay to Bimlipatam. On the 4th at 9h. 15m. P.M., she passed the Alguada reef light house, the weather at the time being fine and the wind SSW. Her barometer reading was 29·67* (reduced) while,

* Corrected by a single reading with the Barometer at the Master Attendant's office in Madras, taken subsequently.

at Port Blair, Akyab, Chittagong, Saugor Island, Calcutta, False Point and Madras, the readings for 10 A.M. of the same day reduced to sea-level were as follows :—

Port Blair ...	... 29·742	Calcutta ...	... 29·637
Akyab ...	... 29·682	False Point ...	... 29·705
Chittagong ...	... 29·662	Madras ...	... 29·713
Saugor Island	... 29·652		

From this time to 3 P.M. of the 5th her barometer fell steadily to 29·44 (corrected and reduced), at which it stood for more than 3 hours. Her position was then about 16° 20′ to 16° 25′ N. Lat., and 90° to 89° 39 E. Long., or about the middle of the bay. Up to this time she had met with no appearance of bad weather. Between 2 and 6 A.M. the wind veered from SSW. to S. and at 11 A.M. to SSE. At noon it fell light and suddenly veered to eastward. At 4 P.M. it was ENE. at 6h. NE. by E. at 8h. NE., and at midnight NNE. The barometer rose from 5 P.M. through the full amount of the usual tide, viz., 0·07. After the easterly wind had set in, long lines of swell were observed coming on from the southward, but by 6 P.M. this swell was neutralised by the increasing wind and sea from the east causing a very confused cross sea. At 7 P.M. the water became quite smooth, and so continued to 10 P.M. without any abatement of the wind. So far the steamer had carried whole topsails, but at midnight a squally appearance to NNE. gave warning of an approaching gale and caused them to be taken in.

This appears to have been the commencement, and not the mere approach of the Cyclone; and it is interesting therefore to notice the state of the barometer and winds around the coasts, as far as our data serve to show them. The following are the 10h. and 16h. observations of the meteorological stations around the Bay reduced to sea-level and corrected :—

	10h.	16h.
Port Blair ...	29·731	29·669
Akyab ...	29·691	29·590
Chittagong ...	29·674	29·589
Saugor Island ...	29·670	29·543
False Point ...	29·675	29·595
Madras. ...	29·734	29·612

There had therefore been a small increase of pressure all round the Bay since 10 P.M. of the preceding day, except at Port Blair and False Point; and at Akyab, Chittagong, Saugor Island and False Point the pressures were nearly equal, while they were from 0·1 to 0·15 higher than in the middle of the Bay.

At Port Blair the wind had been steady from the S. and SW. for two or three days; at Akyab (where it is influenced by the land and sea breezes) SE. and SW.; at Chittagong (similarly influenced) ESE. at night and S. to SW. or W. in the day; at Saugor Island S., varying a couple of points to East or

West; at False Point SE.; and on the 5th, the Steamer "Rangoon" crossing the head of the Bay from Calcutta to Akyab, had a steady SE. breeze. At Madras the ordinary alternations of sea and land breezes prevailed.

These facts seem to point to an origin of the storm similar to that which I have supposed for the storm of the 1st May, *viz.*, an eddy between the SW. wind, and its recurvature as a SE. wind in the northern part of the Bay. The data are, however, too imperfect to afford the means of satisfactory proof or disproof of this view, and an appeal to ship commanders, who arrived in the port shortly after the storm, for further information, met unfortunately with little response. The chief exceptions were the commanders of the B. I. S. N. Company's Steamers "Moulmein," "Rangoon," and "Punjab," and of the P. and O. Co.'s Steamer "Surat."

On the 6th June the "Punjab" pursuing her course WbN., had the wind veering gradually round from NbE. through N. and NW. to WSW., and finally to SWbS. at 9 P. M. The weather was squally and the sea increasing from SW. Finally the wind settled to a hard gale from SW. The barometer remained low, between 29·51 and 29·44, until the 9th, when the "Punjab" was coasting between Coconada and Masulipatam with a fresh breeze from SW.

In the North of the Bay the wind was ESE. and SE. on the 6th, and the weather squally with hard rain. The barometer began to fall on this day, and continued to fall until the evening of the 8th or morning of the 9th, according to the position of the place.

The storm centre must have passed to the East of the outer Mutlah light at 10 P.M. of the 8th, the wind being then WNW., which shows that the track of the storm must then have been about NW. The lowest reading of the barometer (reduced, but uncorrected for instrumental error) being 28·61 and the temperature 83. The mean track was more northerly, since a lull of about 5 minutes was felt at Port Canning, and one of not less than 2 hours at Nuddea Point to the west of Kishnagur.

The motion of the storm was very slow. At Calcutta the barometer remained, with small oscillations, at its lowest reading, 28·712 to 28·716 (reduced) from 10h. 50m. to 11h. 25m. A.M., and had risen only 0·1 by 1 P.M. The wind was from NW. when the barometer was lowest, and the veering was equally slow, since by 1 P. M. it had but just got round to west. The greatest pressure recorded in Calcutta was something over 50lbs. to the square foot.

At Dum-Dum, 7 miles NNE. from Chowringhee, the barometer was at its lowest reading 28·56 (reduced but uncorrected) from 11h. to 12h. and by 1 P. M. had risen 0·09. This station was very near the centre. Between 11h. and 12h. the wind veered from NW. to W.

At Hooghly, however, 22 miles N. of Calcutta, the lowest reading (corrected and reduced) was 28·393 at 1 P.M., and an hour and 10 minutes later it had risen only 0·02. During this interval the wind shifted from N. to NW., showing that the course of the storm was here nearly due north.

At Nuddeah Point again, 36 miles further north, the calm commenced at 5h. 15m., P.M., and, as has been stated, lasted 2 hours, the barometer (reduced, but uncorrected) rising during its continuance from 28·063 to 28·194. This is the lowest reading anywhere recorded. After the calm the wind was from SW.

Beyond Kishnahur the storm appears to have much abated in fierceness. It passed to the west of Berhampore, as is shown by the veering of the wind at that station from NE. through E. and S. to SW. At Rampore Beauleah the wind veered in the same direction, and the barometer was at its lowest point at 5 A.M. of the 10th, the wind being then from SE.

After passing the Ganges, the course of the storm underwent a sudden change, or, as seems more probable, a new vortex was formed at some distance to eastward of its previous track. At Rampore Beauleah the fall of the barometer had been comparatively rapid up to ½ past 2 A.M., when the reading (unreduced and uncorrected,* therefore not comparable with those at other stations) was 28·45. The wind was then due east. By 5 A.M., as already stated, it had fallen further to 28.40, and the wind had veered to SE. The barometer then rose and reached 28·45 by 8 A.M., the wind being still from SE.; but it rose no further in the three succeeding hours, while the wind went round to SW. From noon to 4 P.M., the wind was west, and the barometer rose from 28·50 to 28·80.

Now there is evidence that at noon of the 10th the centre of the storm was at Bundaikhira, 34 miles NNE. of Rampore Beauleah, since at that hour a decided lull of nearly 5 minutes was there experienced at the height of the storm; and the wind, which had been before from the NE., after the lull came on from the west. The changes of the wind at Nattore and Kooshteah, are quite in accordance with the above. That the Bundaikhira vortex was distinct from that which had passed to the westward of Rampore Beauleah, receives some support from the fact that, at that station there were two maxima of the storm's intensity. The first was about 2 A.M., when the barometer was lowest, and the wind veering from E. to SE.; the second at 2 P.M. of the 10th, when the wind was due west.

The storm was felt as far as Rungpore, where it was at its height from 6 P.M. to midnight of the 10th, and the wind veered from NE. to west, but it is not stated in which direction.

The storm wave swept over much the same tract as that of the 16th May, but was less disastrous in its effects both on life and cultivation. Generally, it was of less depth on the inhabited part of the Soonderbuns and the water was less salt.

* The instrument probably reads low by $\frac{2}{10}$ or $\frac{3}{10}$.

Storm of the 7th-8th October.—This storm was one of little violence, and was apparently local and of short duration. Its course was much to the westward of that followed by any cyclone within my experience, though not without precedent among the storms recorded by Mr. Piddington.

Up to the 7th, neither the barometer nor the wind directions at any station around the Bay gave any indication of a coming cylcone. At Port Blair the wind had been steady from the SW. for several days, and the barometer had not varied more than ·03 in. on the mean of the day, from the 2nd to the 6th. At Akyab the barometric change had been little greater, and the wind had been light from SSE., with one or two changes to N. and E. for a few hours, which were probably due to local causes. On the 6th, it was steady from SSE. or SW., but blowing moderate to fresh. At Saugor Island it was light and steady from the south up to midnight of the 6th, after which a light wind set in from ENE., and continued without much change till sun-set. And at False Point the barometer had been steady with easterly or south-easterly winds. At the Sandheads the wind had been from the SE., varying one or two points towards the E. or S : the weather had been cloudy, and lightning had been observed over the Bay for two or three evenings. On the afternoon of the 6th, the sky was overcast, and in the evening there was a squall from the eastward. The morning of the 7th broke with a NE. by E. wind, and squally weather with rain, looking very dirty to the SE. From NE. to SE. extended one high bank of slate coloured cloud with driving white scud, and a long swell set in from ESE. The barometer began to fall slightly, and the bank of cloud approached from the eastward and by half-past 7 had reached the zenith.

All these facts point to the formation of the storm on the morning of the 7th in the northern part of the Bay. In the south, the wind was westerly or WSW., and the weather squally. This had been the case for some days, but such weather is only such as is usual to the north of the line at this time of the year; and I have elsewhere pointed out* that the existence of this wind appears to be uniformly one of the conditions of the formation of cyclones in the Bay of Bengal.

The track of the storm before reaching the coast was NWbW. The centre passed over the light ship at the Mutlah Sandheads and just skirted Saugor Point. At Saugor Island light-house, the wind fell light at 10 P.M., after veering from NE. to ENE., from which quarter it had blown for the half hour preceding the lull. The lull (not an actual calm) lasted 50 minutes, the barometer standing at 28·829 (corrected and reduced.) In the middle of the lull the wind shifted to SSW., whence it afterwards veered to SW., WSW. and W. By 4 A.M. of the 8th, the storm was virtually over. The barometer had risen to 29·610, and the wind was blowing fresh from SW.

The storm wave produced a rise of only 1 foot at Saugor Island, but in the jungles on the sea-face to the east of the Mutlah, the sea drift was afterwards found lodged on trees above 12 feet from the ground.

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* See Proc. Roy. Soc. No. 113, 1869, p. 476.

The centre passed to the north of Contai, at which place the barometer was lowest at a quarter of an hour before midnight, with the wind from NW. It had veered from NE. at 11 P.M., and afterwards went round to W,SW, and SE. at 2h. 40m. A.M. Finally at 8h. 40m. it was from south.

Continuing on a NW. course the storm centre passed to SW. of Midnapore, and apparently very close to the station, as there was a sudden shift of the wind from NNE. to S. at 3h 30m. A.M. The mean rate of the storm's progress is thus determined very satisfactorily as being 12·4 miles an hour from Saugor Island to Contai, and 14 miles an hour from Contai to Midnapore. Calcutta was quite at the limits of the storm, since the highest pressure there registered did not exceed 9lbs. to the square foot. The barometric tides too were but slightly affected. The barometer rose from 4 P.M. to 7 P.M. of the 7th, and then fell gradually to 3 A.M., but the total fall in this time did not exceed 0·114 inch. The distance between Calcutta and Saugor Point is 70 miles, and between Calcutta and Midnapore about the same distance.

At Purulia, 95 miles NW. of Midnapore there was a dead calm of half an hour, about ½ past 8, before which the wind was from NE., and after it from SbE. From this quarter it blew violently for two hours, and then veered to east, in which quarter it died away about noon. Both here and at Midnapore the storm was followed by heavy rain. The above shows the increasing rapidity in the progress of the storm, as it moved further inland. Its mean advance from Midnapore to Purulia was 18·5 miles an hour. From the Police reports it appears that the track over which the storm was felt with destructive violence, was about 45 or 50 miles in width.

Beyond Purulia the storm centre passed to the south of Parasnath and north of Hazareebaugh. At this station the lowest reading of the barometer was 27·292 at 1 P.M. This would be equal to 29·263 at sea-level. At this time the wind was from W. By 2 P.M. the barometer had risen 0·1, and the wind had veered to SW. The gale subsided at S. between 3 and 4 P.M., and the wind afterwards went round to SW.

The centre of the storm passed Gya between 4h. 30m. and 5 P.M., during which interval a lull was experienced. Before the lull, the wind had veered from NE. to north; after it, the gale was from SE. The whole duration of the storm at this station was only 4½ hours, and its mean rate of progress from Purulia 16·25 miles an hour.

Letters that appeared in the newspapers shortly after the storm, show that it was felt as far as Benares, but they afford no distinct evidence of the existence of a vortex. At Arrah the wind veered from NE. to SE., and the barometer fell about 0·3 apparently, the lowest reading being at 6 P.M. of the 8th. At this station the wind seems to have caused much destruction of huts, trees, &c.

Much rain fell in Behar, Tirhoot, Ghazeepore and Benares, on the 8th, 9th and 10th; such indeed as to produce considerable floods of the Soane, Gograh and Ganges; and this was evidently the termination of the storm.

REPORT

OF THE

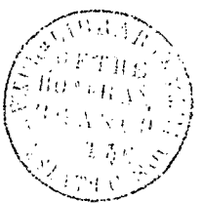
METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL.

METEOROLOGICAL ABSTRACT

For the year 1870.



BY HENRY F. BLANFORD,
Meteorological Reporter.

CALCUTTA.

PRINTED BY WILLIAM JONES, AT THE ALIPORE JAIL PRESS.

1871.

METEOROLOGICAL ABSTRACT FOR 1870.

INTRODUCTORY REMARKS.

THE Meteorological system of Bengal during the past year has remained with but few alterations such as was described in my Report for 1869. It has long been understood that the whole system is at present to be considered as tentative, and it was expected in the early part of the year that its working would speedily be brought under review in common with that of the systems that have been established in other provinces of India; and that it would then possibly undergo some modification. No attempt was made therefore to add to the number of stations, and one station, viz., Gya, which had not been fully equipped at the end of 1869, was allowed to fall into abeyance, and does not appear among the registers for 1870. At the same time, a native gentleman, resident at Vizagapatam, Mr. A. V. Nursingrow, who has for some years past kept a regular Meteorological register, very obligingly altered the form of his register and method of registration so as to make them uniform with those of the Bengal stations; and means having been taken to compare his barometer with the Calcutta standard, the registers which he has sent regularly to me since the beginning of 1870, have formed an important addition to the data available for discussion, being those of a coast station intermediate between False Point and Madras. A summary of the Vizagapatam registers will be given in the present report uniformly with those of Bengal.

In other directions again, thanks to the voluntary co-operation and assistance of the gentlemen whose names I shall mention, the area available for discussion has been largely extended. In Ceylon, Captain A. B. Fyers, R. E., the Surveyor General of the Island, has established a regular system of registration at twelve stations; and I am indebted to him for a summary of the registers of five of these, which, with Vizagapatam already mentioned, have enabled me to complete a series of fortnightly Meteorological Charts for the Bay of Bengal, the East Coast of India, and the Island of Ceylon.

From Singapore I have received a copy of a register kept under the direction of Dr. H. L. Randell.

From Central India (an area the importance of which to any comprehensive discussion of the Bengal Meteorology, I pointed out in my report for 1869) I have received from the Sanitary Commissioner Dr. Townshend, fortnightly summaries of the registers of eight stations. The barometric data of these registers cannot at present be compared with those of Bengal, as the errors of the barometers are unknown, and their elevation of the barometers above sea-level has not yet been determined with that accuracy which is indispensible for the reduction of barometric registers in India; but the registers of temperature, wind and rainfall

have been of great service. Lastly, from Upper Assam, Dr. Foster has continued to send me the register regularly kept by him at Dholebagaun, and which was briefly noticed in the report for 1869.

Although far from sufficient to allow of any satisfactory discussion of our local Meteorology, the additional information thus obtained, has enabled me to give a better view of the distribution of heat and atmospheric pressure and of the course of the monsoons that was possible in 1869. These subjects will be noticed in the body of the report.

I shall, as in former years, include in the tabular summaries of mean Meteorological elements, the results of Roorkee and Benares, for which I am indebted to Dr. Murray Thomson ; and of Madras, as compiled from the telegraphic reports transmitted from the Madras Observatory. Also the registers of Port Blair contributed by Dr. Curran.

The Meteorological elements, the monthly values of which will be given, are :—

Atmospheric pressure,
Mean temperature of air,
Extreme temperature of air,
Temperature of solar radiation,
Temperature of grass nocturnal radiation;
Humidity;
Serenity (Proportion of unclouded sky),
Wind direction,
Rainfall.

The radiation tables are less complete than those of other elements, since some of the stations were furnished with instruments only in April ; owing also to the occasional destruction of the instruments. Generally however the tables exhibit fewer deficiences than those for 1869. I have continued to give attention to the re-comparison of the barometers, thermometers and some other instruments already in use, so as to bring the registers for the past as well as present year accurately up to a common standard. With a similar object, viz., that of rendering all the data comparable, I have also determined with greater accuracy than before, the elevations of the barometers at certain stations, viz., Patna and Benares, by spirit leveling, and Jessore and Shillong by comparison of their barometric data with those of several other stations. Dr. Murray Thomson has also verified the elevation of the Roorkee barometer. The corrections thus determined will be given in their proper places and have in all cases been applied in the present Report.

The number of stations from which the rainfall is reported has been largely increased during the past year, and all have been supplied with Symon's gauges of an uniform pattern. By a comparison of the readings of these gauges with those of the gauges formerly in use, the errors of the latter have been approximately determined. These also will be given in the body of the Report.

Hours of Observation.

The barometer, dry and wet-bulb thermometers and wind direction, are observed at 4h, 10h, 16h, and 22h, at all the stations except Port Blair and

Madras. From these stations only two sets of daily observations are received, viz., those of 10h. and 16h. All minimum thermometers are read at 10h. and the maximum thermometers and the rain gauge at 18h. Local time is observed at all stations.

STATIONS.

The following table gives the geographical positions of all the stations of observation; also the elevation of the barometers above sea-level; or the elevation of the general level of station, if the exact elevation of the instrument has not been ascertained. I append, moreover, a brief description of the physical geography of each station, as far as I am able to do so from a personal knowledge of the place, or from trustworthy information.

Table I.— Latitude, Longitude, and Elevation of Stations.

STATIONS.		Lat. N.	Long. E.	Elevation in feet.	How determined.	REMARKS.
Port Blair	(1)	11°41′	92°42′	{ 218 / 110 }	?	
Madras	(2)	13°5′	80°17′	27	?	Bar. Cistern.
Vizagapatam	...	17°42′9″	83°22′30″	31	?	
Akyab	...	20°8′	92°57′	15	Measured ...	Do.
False Point	...	20°20′	86°47′	18·7	By Spirit Level ...	Light House B. M.
Cuttack	...	20°29′	85°54′	80	Do.	Bar. Cistern.
Saugor Island	...	21°39′	88°5′	6	Estimated ...	Bar. Cistern. approx.
Chittagong	...	22°21′	91°50′	108	By Barometer ...	Do. Do.
Calcutta	...	22°33′	88°21′	18·11	By Spirit Level ...	Bar. Cistern.
Jessore	(3)	23°9′	89°7	27	By Barometer ...	Do.
Dacca	...	23°43′	90°27′	35	{ Measured above Ground Level G. L. estimated }	Do.
Hazareebaugh	...	24°	85°24′	2014	{ By Spirit Level to G. T. B. M. ... }	Do.
Berhampore	...	24°6′	88°17′	80	?	
Patna	(4)	25°37′	85°8′	170	By Spirit Level ...	Do.
Monghyr	(5)	25°22′	86°30′	{ 150 / 160·4 }	Do.	Do.
Silchar	...	24°49′	92°50′	73	By Trig. ...	Do.
Shillong	(6)	25°32′	91°54′	4792	By Barometer ...	Do.
Goalparah	...	26°11′	90°40′	386	{ By Spirit Level to G. T. S. B. M. ... }	Do.
Darjeeling	(7)	27°3′	88°18′	{ 6960 / 6941 }	By Trig. ...	Do. approx.
Benares	(8)	25°20′	83°2′	262·74	By Spirit Level ...	Do.
Roorkee	(9)	29°52′	77°56′	879·7	Do.	Do.

1. The instruments were removed from the higher to the lower Level on the morning of the 9th November 1870.
2. Previously given as 29 feet. The corrected height is taken from the *Madras Gazette*.
3. Formerly given as 15 feet. The elevation now given is deduced from a comparison of the means of 3 complete year's observations with those of Calcutta, Berhampore, Dacca and Chittagong.
4. The elevation now given which differs by 1 foot only from that previously assigned, was ascertained by spirit leveling to the G. T. S. datum level, at the railway crossing West of Bankipore station.
5. The instruments were removed from their former site at Dr. Cameron's house in the Fort, to their present site in the native dispensary on the 5th August. The elevation of the latter 160·4 ft. was ascertained by spirit leveling to one of the G. T. S. data in the Monghyr railway station.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger island. A range of mountains runs through the island from north to south, protecting Port Blair in some measure, from the south-west monsoon. The Observatory is situated on Viper Island, a small rocky islet, some distance up the harbour.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's Mount and Palaveram (7 and 10 miles from Fort St. George.) The country rises gradually to the westward, forming the plains of the Carnatic or Payen-ghaut, and the nearest hills of considerable elevation are the Naggery Hills, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Vizagapatam.—This station is situated on the coast about midway between the Chilka lake and the delta of the Godavery. It is the only part of the Coromandel coast at which the hills advance actually to the sea-board. At Vizagapatam they form a promontory known as the Dolphin's nose which encloses a small bay at the head of which the station is built. The interior is hilly and covered with jungle, and has a bad reputation for fever.

Akyab, on the coast of Arracan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne River, much of which is flooded in the rainy season. The Arracan Hills, covered with an almost impenetrable jungle, are at a few miles distance to the north-east of the station.

False Point.—The Light-house is a conspicuous land-mark on the coast of Orissa, standing on a prominent point of the Mahanuddy Delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant fifty miles. The coast-line trends about north-east and south-west, so that winds from east and south are sea winds ; those from west and north, land winds.

Cuttack is built on flat alluvial ground at the head of the Mahanuddy Delta. The river, one of the largest in the Peninsula of India issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches, the Kajouri and the Mahanuddy, in the fork of which Cuttack is situated. To the west and north the country is hilly, and much covered with jungle, while to east and south of the station stretches the delta of the Mahanuddy, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island.—The telegraph station, at which is also the Meteorological Observatory, is situated close to the south-western extremity of Saugor Island, (one of the low-lying alluvial islands of the Soonderbuns,) and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal, to the west and north-west the estuary of the Hooghly, here about twenty miles broad, with the

6. Formerly given as 4825ft. The present elevation is the mean of those obtained from a comparison of the barometric readings for 20 months with Goalparah, and 18 months with Cachar in 1869 and 1870.

7. The barometer was moved from the house known as the 'Dale' to another very near it on the 1st April 1870. The difference in elevation is stated by the observer to have been ascertained at 13ft. I have had no opportunity of verifying this datum.

8. Formerly given as 253·30ft. The elevation now given was ascertained by spirit levelling from the G. T. S, Bench mark at the Post office, to the plinth of the house in which the barometer is kept, whence the vertical height to the barometer cistern was measured.

9. Formerly given as 905ft. The present value was ascertained by Dr. Murray Thomson by spirit leveling to a G. T. S. Bench mark.

low marshes of Hidgellee beyond. To the east and north-east stretch the swampy jungles of the Soonderbuns, much of which are flooded at spring tides. Indeed the station itself is below high water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arracan mainland, in the extreme north-east corner of the Bay of Bengal, and opposite to the embouchure of the Megna, the largest estuary of the Gangetic Delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, and forming the port of Chittagong, here enters the sea, from which the station of Chittagong is distant about three miles. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of a more elevated plain, formed of highly inclined (tertiary ?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about twenty miles distant. Thus situated, the station is exposed to the brunt of the south-west monsoon; and the rain-fall, as along all the Arracan Coast, is comparatively heavy.

Calcutta is situated sixty-eight miles from the sea, and about the same distance from the western edge of the Gangetic alluvium, which formation stretches away northward to the Himalaya, four hundred miles distant, and eastward for two hundred miles, nearly to the Tipperah Hills. About three miles to the east of Calcutta is the margin of the Salt Lake, a shallow brackish lagoon in an unfilled depression of the delta. To the south of this, much of the Soonderbun land is still unreclaimed from jungle, but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jheels) occur in many directions around Calcutta, and over all parts of the delta. The climate of Calcutta is therefore moist and the herbage green, throughout the year. The thermometric range, both annual and daily, is less than at stations higher up the country, and the latter in the driest month of the year (March) does not exceed 19° or 20°.

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca.—Between the former course of the Brahmapootra, (still in its lower part a broad channel, the Megna) and that which the river now follows to its confluence with the Pudda or Ganges at Goalundo, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at the southern extremity of this tract, within a few miles of the Megna, on the bank of a small branch of the Brahmapootra. To the south is a net-work of broad rivers stretching to the sea, and in other directions (except the north) rice lands and grass jungle, which are flooded in the rains. At that time of the year, with the exception of the Madhopore jungle, but little land is visible. Hence the high humidity of the station.

Darjeeling, on a spur of the Singalelah Range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The Electric Telegraph Office, at which the thermometers, barometer and rain-guage are kept, is in the latter position, a little below the summit. The wind vane, &c., are on the crest of the ridge.

Silchar.—This station is situated on the left bank of the Barak River, on an alluvial plain, but little elevated above the flood level of the river. Ridges of low forest-clad hills run southwards from the river bank at intervals of six or eight miles, and the intervals are occupied by plains, a great part of which are under water in the rains, and in the dry weather are converted into beels, swamps, and (where cleared of forest) paddy fields. Twenty or thirty miles to the south of the station, the ridges above mentioned run up into the hill country of South Cachar, the mean elevation of which is from 1,000 to 2,000 feet; and at ten miles to the north of the river are the Naga Hills (an eastern extension of the Garrow and Khasi plateau.) About twenty miles to the eastward the valley is nearly closed by the Burrail Range.

Shillong, on the northern slope of the Khasi Hills, overlooking the valley of Assam. It is but thirty miles north of Cherra Poonji, (the rain-fall of which is well-known to be the heaviest anywhere yet recorded,) but three ridges of greater elevation intervene, and the rain-fall at Shillong, though frequent, is by no means excessive, amounting only to 91·20 inches on the average of five years. Shillong Hill, one of the highest on the Khasi plateau, is immediately to the south of the station, which lies in a broad valley between the main ridge and one of its spurs. The hills are generally covered with coarse grass, patches of pines being scattered here and there, but not attaining to a very vigorous growth. The hills fall away very gently to the Brahmapootra, which is at a distance of about sixty miles.

Goalparah is on the south bank of the Brahmapootra, near the lower termination of the Assam Valley. The Observatory is situated on a hill close to the station, 249 feet above the river*, and 386 feet above sea-level. It is described as the only open spot about the station. To the south are the Garrow Hills.

Berhampore, one hundred and seventy miles from the sea, on the left bank of the Bhagirati, thirty miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground rises from a short distance to the west of the river, up to the foot of the Rajmehal Hills, and the undulating country of Beerbhoom.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the northern extremity of the Kurruckpore Range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quartzites, and preserving the same mineral characters, they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain; to the south and south-east, the rocky and elevated country of Hazareebaugh and the Damin-i-koh, chiefly covered with forest, and of which the Kurruckpore Hills form the north-western corner.

Hazareebaugh is situated in the elevated and hilly country south of the Ganges, and between its delta and the valley of the Soane. To the south of the station the ground falls rapidly to the Damoodah; to the north it declines gently to a lower part of the plateau, traversed by the Great Trunk Road, which at Burhee (due north of Hazareebaugh) has an elevation of 1,160 feet. The country is undulating or hilly, and much covered with jungle.

*Above the highest water mark.

Patna, on the south bank of the Ganges, below the confluence of the Soane, and surrounded by the alluvial plains of these rivers.

Benares, on the north bank of the Ganges, one hundred and eighty miles west of Patna. From the south bank of the river, the alluvium extends to the foot of the Kymore plateau, which intervenes between the valleys of the Ganges and the Soane. To the north is the flat alluvial plain of Oude.

Roorkee, near the head of the Ganges Canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

Atmospheric Pressure.

The instruments in use at all the stations except False Point, Jessore, Patna, Benares and Vizagapatam, are mercurial barometers furnished either with a moveable plug for adjusting the mercury level of the cistern to the zero of the scale, (Fortin's principle) or with a moveable scale the zero of which is adjustable to the cistern level. At False Point a marine barometer of the Fitzroy pattern has been in use; at Jessore and Benares marine barometers on the Kew principle (*i. e.*, with a contracted scale to compensate the changes in the cistern level); and at Patna (up to the beginning of December) a Newman's mountain barometer which requires a correction for cistern capacity to be applied to the readings. At Vizagapatam the barometer is self-adjusting by means of a plug which is worked by the pinion of the vernier. Owing to these differences in the character of the instruments, the indicated daily range of the pressure is not rigorously comparable at all the stations; and at those stations at which marine barometers are used, must be considerably less than would be shewn by a standard instrument. The same remark applies to Darjeeling. All the instruments, with the single exception of the Madras standard, have now been compared either directly or indirectly with the Calcutta standard. Those of Benares, Patna, Hazareebaugh, Saugor Island and Jessore were verified at the end of the year by comparison with a portable mountain barometer by Messrs. Adie & Co., which I carried with me from station to station. This barometer had been carefully compared before leaving Calcutta, and the comparison was repeated on my return. I found that, as a result of this verification, the mean readings given in my report for 1868 and 1869 must be corrected as follows:—

Benares ...	—·024
Patna ...	+·022
Hazareebaugh ...	+·004
Saugor Island ...	·0

The error of the Roorkee Barometer was determined by D. Murray Thomson, by comparing it with an Adie's mountain barometer (sent up from Calcutta for the purpose,) and was found to be—·033. This amount must therefore be added to the mean readings for 1868 and 1869 published in previous reports. All the figures given in the following tables are corrected up to the latest verification

As in previous reports, I give the means of the hours of observations for each month, and that of the month; which last is the mean of the four periods for all the stations except Madras and Port Blair. From the former of these stations only the 10h. and 16h. readings are reported by telegraph, and at the latter these are the only readings registered. In these cases therefore, the mean of the two periods is taken as that of the month and they are distinguished by a (*). I have shewn in my report for last year that the error thus arising is not such as appreciably to affect any inference as to the distribution of the atmospheric pressure that may be drawn from the tables. Two stations furnish imperfect registers, viz., Akyab and Shillong. The Akyab registers were irregular and in part carelessly kept during the first half of the year, but in August the officer in charge was removed, and since that time they have been quite satisfactory. The Shillong registers for the later months of the year shewed several irregularities more especially in the night readings, which warranted their rejection, but there appeared no reason to question the general accuracy of the day observations.

In the column for range is given the difference of the 10h. and 16h. observations, which at all stations except Darjeeling is the major semi-oscillation of the day. At Darjeeling, as I pointed out in my report for last year, the morning minimum in certain months is lower than that of the afternoon: consequently the 4h. to 10h. oscillation is the greater. Col. Boileau's table of the mean diurnal variation of pressure at Simla, deduced from the observations of three years, shew that, at that station, the morning (4h.) minimum is the lower in all months of the year, except July and August. As is well known, both of these stations are situated on ridges separated by valleys of 5,000ft. to 6,000ft. deep. On the other hand Hazareebaugh and Shillong, which (as I have mentioned in the report for 1869) resemble the low country stations in the character of their barometric tides, are situated on plateaux; the former at 2,000ft. the latter at 4,800; and in both cases on the principal local water-shed. The local contrasts of elevation are therefore in their case comparatively small. Sir John Herschell pointed out the cause and the determining conditions of this variation of the barometric tide on mountains and the predicted fact is verified by the present examples as well as that of the Great St. Bernard given by Plantamour.

The Simla and Darjeeling tides shew some remarkable differences, the elevations of the stations being almost the same. In the following table are given the monthly means and the mean differences of the maxima and minima at the two stations as deduced from the observations of three years. The difference of half an hour in the times of observations does not appreciably affect the comparison, as is evident from the character of the Simla curves. But I have reason to believe that the range shewn by the Darjeeling barometer is considerably (more than one-third) less than the actual range, so that the difference of range at the two stations is in reality less than it appears to be.

Table II.

Diurnal range of the barometer at Simla and Darjeeling.

Months.	Means.		4h. 29′	4h.	10h. 29′	10h.	16h. 29′	16h.	22h. 29′	22h.
	Simla.	Darjeeling	Simla.	Darjeeling	Simla.	Darjeeling	Simla.	Darjeeling	Simla.	Darjeeling
January...	23·225	23·356	—·051	—·023	+·070	+·041	—·031	—·028	+·021	+·011
February...	·198	·312	—·053	—·024	+·070	+·032	—·032	—·025	+·022	+·019
March ...	·197	·313	—·059	—·022	+·065	+·036	—·032	—·025	+·027	+·015
April ...	·207	·330	—·056	—·023	+·068	+·033	—·032	—·029	+·023	+·013
May ...	·142	·301	—·048	—·021	+·068	+·032	—·033	—·023	+·015	+·013
June ...	·061	·231	—·046	—·031	+·064	+·029	—·035	—·020	+·017	+·022
July ...	·069	·229	—·039	—·026	+·058	+·024	—·043	—·017	+·023	+·020
August ...	·101	·258	—·040	—·027	+·059	+·027	—·042	—·020	+·025	+·017
September	·191	·331	—·043	—·026	+·067	+·028	—·035	—·023	+·018	+·016
October ...	·277	·392	—·047	—·023	+·066	+·031	—·032	—·020	+·021	+·013
November	·293	·426	—·047	—·019	+·069	+·030	—·035	—·022	+·019	+·013
December	·254	·400	—·052	—·015	+·072	+·029	—·034	—·023	+·022	+·009
Year ...	23·185	23·323	—·048	—·023	+·065	+·031	—·035	—·023	+·021	+·015

A remarkable difference shewn by this table is, that at Simla the morning minimum is lowest in the driest months March and April, and highest in July, while at Darjeeling it is lowest in June and the months of the rains, and highest in December. On the other hand the afternoon depression is greatest in July and August at Simla, and least in the same months at Darjeeling. The cause of this difference is not obvious; but I draw attention to it as a fact which may be of value in my future discussion of the barometric tides.

Table III.—Barometric Mean Monthly Pressures for 1870.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·639*		29·693	29·585		·108
February	29·670*		29·727	29·614		·113
March	29·648*		29·702	29·594		·108
April	29·608*		29·659	29·558		·101
May	29·542*		29·592	29·492		·100
June	29·554*		29·596	29·513		·083
July	29·542*		29·578	29·506		·072
August	29·540*		29·582	29·499		·083
September	29·581*		29·628	29·535		·093
October	29·623*		29·675	29·572		·103
November	29·668*		29·722	29·614		·108
December	29·721*		29·761	29·681		·080

N. B.—The means of November and December have been corrected to the elevation (218ft.) at which the barometer had been during the previous months.—See note to Table 1. p. 3.

MADRAS.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·897*		29·952	29·842		·110
February	29·917*		29·976	29·858		·118
March	29·877*		29·936	29·819		·117
April	29·782*		29·846	29·718		·128
May	29·661*		29·720	29·602		·118
June	29·682*		29·735	29·628		·107
July	29·698*		29·753	29·643		·110
August	29·727*		29·787	29·668		·119
September	29·756*		29·817	29·696		·121
October	29·809*		29·869	29·749		·102
November	29·932*		29·986	29·878		·108
December	29·995*		30·047	29·944		·103

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·868	29·830	29·939	29·831	29·873	·108
February	29·873	29·840	29·943	29·818	29·891	·125
March	29·844	29·823	29·904	29·787	29·863	·117
April	29·784	29·757	29·840	29·731	29·807	·109
May	29·627	29·613	29·682	29·571	29·643	·111
June	29·632	29·611	29·676	29·579	29·660	·097
July	29·565	29·541	29·606	29·516	29·596	·090
August	29·627	29·614	29·670	29·568	29·656	·102
September	29·684	29·653	29·733	29·632	29·717	·101
October	29·796	29·763	29·854	29·748	29·821	·106
November	29·923	29·871	29·988	29·883	29·950	·105
December	30·013	29·984	30·078	29·967	30·034	·111

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February	29·922	29·899	29·989	29·867	29·934	·122
March	29·871	29·872	29·922	29·813	29·878	·109
April	29·322*		29·873	29·772		·101
May	29·707*		29·757	29·657	29·725	·100
June	29·744	29·718	29·780	29·711	29·765	·069
July	29·688	29·665	29·723	29·655	29·710	·068
August	29·686	29·662	29·731	29·638	29·714	·093
September	29·786	29·759	29·840	29·725	29·820	·115
October	29·867	29·846	29·921	29·807	29·894	·114
November	29·954	29·927	30·005	29·902	29·981	·103
December	29·997	29·975	30·052	29·948	30·013	·104

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·023	30·020	30·068	29·974	30·029	·094
February	29·999	30·000	30·045	29·946	30·005	·099
March	29·919	29·913	29·969	29·869	29·924	·100
April	29·823	29·809	29·872	29·768	29·843	·104
May	29·668	29·653	29·712	29·618	29·688	·094
June	29·661	29·637	29·702	29·620	29·685	·082
July	29·581	29·564	29·612	29·542	29·605	·070
August	29·650	29·633	29·685	29·611	29·673	·074
September	29·744	29·725	29·784	29·699	29·768	·085
October	29·866	29·845	29·915	29·825	29·877	·090
November	29·995	29·981	30·037	29·954	30·007	·083
December	30·082	30·067	30·132	30·035	30·095	·097

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·934	29·918	29·997	29·867	29·953	·130
February	29·905	29·886	29·975	29·831	29·929	·144
March	29·828	29·820	29·894	29·750	29·849	·144
April	29.725	29·708	29·791	29·643	29·756	·148
May	29·558	29·544	29·619	29·486	29·583	·133
June	29·570	29·537	29·617	29·510	29·616	·107
July	29·508	29·481	29·549	29·457	29·543	·092
August	29·595	29·580	29·634	29·544	29·621	·090
September	29·678	29·655	29·720	29·627	29·711	·093
October	29·801	29·773	29·863	29·749	29·820	·114
November	29·933	29·902	29·989	29·888	29·953	·101
December	30·002	29·972	30·065	29·947	30·023	·118

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·975	29·949	30·047	29·917	29·986	·130
February	29·944	29·915	30·019	29·888	29·956	·131
March	29·867	29·840	29·938	29·811	29·879	·127
April	29·776	29·751	29·844	29·715	29·795	·129
May	29·630	29·608	29·687	29·573	29·650	·114
June	29·624	29·603	29·666	29·568	29·658	·098
July	29·535	29·519	29·568	29·487	29·565	·081
August	29·611	29·591	29·655	29·554	29·643	·101
September	29·715	29·696	29·762	29·658	29·745	·104
October	29·839	29·815	29·898	29·784	29·857	·114
November	29·968	29·938	30·030	29·918	29·985	·112
December	30·042	30·016	30·110	29·986	30·057	·124

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·848	29·841	29·888	29·817	29·846	·071
February	29·826	29·811	29·878	29·780	29·836	·098
March	29·752	29·734	29·811	29·707	29·758	·104
April	29·699	29·701	29·746	29·636	29·713	·110
May	29·633	29·618	29·685	29·577	29·654	·108
June	29·613	29·606	29·642	29·560	29·644	·082
July	29·527	29·517	29·550	29·479	29·564	·071
August	29·563	29·563	29·598	29·493	29·597	·105
September	29·668	29·660	29·718	29·614	29·681	·104
October	29·758	29·730	29·817	29·694	29·792	·123
November	29·858	29·818	29·910	29·813	29·889	·097
December	29·922	29·890	29·978	29·872	29·947	·106

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·962	29·935	30·040	29·907	29·966	·133
February	29·925	29·898	30·004	29·865	29·935	·139
March	29·840	29·813	29·918	29·783	29·848	·135
April	29·757	29·733	29·825	29·689	29·780	·136
May	29·600	29·581	29·660	29·539	29·618	·121
June	29·603	29·587	29·648	29·546	29·632	·102
July	29·522	29·507	29·562	29·469	29·552	·093
August	29·596	29·576	29·643	29·538	29·626	·105
September	29·703	29·682	29·755	29·643	29·732	·112
October	29·825	29·805	29·884	29·766	29·843	·118
November	29·958	29·931	30·020	29·907	29·973	·113
December	30·029	30·002	30·100	29·974	30·041	·126

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·946	29·931	30·011	29·886	29·956	·125
February	29·906	29·888	29·972	29·841	29·925	·131
March	29·824	29·806	29·894	29·761	29·835	·133
April	29·742	29·723	29·812	29·668	29·766	·144
May	29·594	29·582	29·652	29·524	29·619	·128
June	29·596	29·580	29·640	29·541	29·623	·099
July	29·514	29·496	29·553	29·463	29·542	·090
August	29·583	29·562	29·628	29·529	29·611	·099
September	29·695	29·669	29·747	29·637	29·728	·110
October	29·815	29·788	29·874	29·758	29·842	·116
November	29·949	29·926	30·000	29·895	29·974	·105
December	30·013	29·996	30·071	29·956	30·030	·115

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·932	29·912	29·999	29·873	29·945	·126
February	29·901	29·880	29·973	29·840	29·911	·133
March	29·818	29·803	29·888	29·753	29·830	·135
April	29·748	29·735	29·816	29·675	29·765	·141
May	29·606	29·596	29·670	29·538	29·621	·132
June	29·618	29·602	29·661	29·560	29·650	·101
July	29·538	29·522	29·578	29·485	29·565	·093
August	29·593	29·580	29·641	29·529	29·622	·112
September	29·707	29·692	29·758	29·645	29·731	·113
October	29·816	29·801	29·873	29·753	29·836	·120
November	29·934	29·908	29·987	29·883	29·957	·104
December	29·997	29·974	30·056	29·943	30·017	·113

CACHAR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·899	29·888	29·976	29·824	29·908	·152
February	29·875	29·859	29·949	29·805	29·886	·144
March	29·790	29·778	29·869	29·713	29·802	·156
April	29·728	29·716	29·799	29·651	29·746	·148
May	29·591	29·580	29·661	29·519	29·606	·142
June	29·596	29·568	29·652	29·537	29·627	·115
July	29·529	29·518	29·580	29·459	29·560	·121
August	29·570	29·568	29·620	29·491	29·603	·129
September	29·684	29·671	29·744	29·614	29·707	·130
October	29·775	29·769	29·841	29·698	29·793	·143
November	29·887	29·876	29·950	29·821	29·903	·129
December	29·918	29·939	30·009	29·876	29·968	·133

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	27·933	27·903	27·995	27·891	27·943	·104
February	27·908	27·881	27·970	27·851	27·922	·119
March	27·850	27·827	27·913	27·796	27·863	·117
April	27·775	27·757	27·828	27·721	27·793	·107
May	27·616	27·599	27·664	27·556	27·645	·108
June	27·583	27·567	27·612	27·535	27·617	·077
July	27·540	27·523	27·563	27·499	27·574	·064
August	27·592	27·568	27·630	27·543	27·627	·087
September	27·714	27·695	27·758	27·660	27·742	·098
October	27·842	27·828	27·880	27·792	27·868	·088
November	27·943	27·921	27·986	27·898	27·968	·088
December	27·988	27·966	28·060	27·935	28·009	·105

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·893	29·881	29·969	29·828	29·895	·141
February	29·848	29·837	29·924	29·780	29·853	·144
March	29·761	29·756	29·835	29·693	29·762	·142
April	29·682	29·677	29·758	29·600	29·692	·158
May	29·509	29·511	29·570	29·417	29·514	·153
June	29·528	29·524	29·583	29·461	29·543	·122
July	29·453	29·452	29·500	29·386	29·476	·114
August	29·529	29·526	29·584	29·454	29·551	·130
September	29·634	29·632	29·695	29·559	29·652	·136
October	29·760	29·750	29·820	29·695	29·777	·125
November	29·901	29·891	29·964	29·829	29·920	·135
December	29·967	29·956	30·034	29·893	29·984	·141

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·829	29·809	29·906	29·763	29·836	·143
February	29·784	29·757	29·851	29·736	29·794	·115
March	29·696	29·680	29·761	29·636	29·709	·125
April	29·595	29·578	29·661	29·531	29·612	·130
May	29·408	29·398	29·464	29·351	29·418	·113
June	29·397	29·387	29·444	29·342	29·414	·102
July	29·351	29·339	29·388	29·305	29·371	·083
August	29·428	29·415	29·472	29·375	29·452	·097
September	29·536	29·520	29·587	29·485	29·554	·102
October	29·680	29·660	29·734	29·636	29·691	·098
November	29·826	29·800	29·884	29·786	29·835	·098
December	29·892	29·868	29·958	29·832	29·909	·126

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·822	29·803	29·907	29·757	29·823	·150
February	29·769	29·740	29·843	29·715	29·780	·128
March	29·669	29·649	29·748	29·606	29·674	·142
April	29·588	29·575	29·658	29·517	29·603	·141
May	29·403	29·395	29·466	29·334	29·417	·132
June	29 394	29·383	29·445	29·327	29·420	·118
July	29·336	29·320	29·383	29·280	29·361	·103
August	29·426	29·414	29·471	29·360	29·461	·111
September	29·514	29·499	29·569	29·449	29 541	·120
October	29·653	29·636	29·711	29·593	29·673	·118
November	29·800	29·771	29·863	29·749	29·818	·114
December	29·867	29·840	29·932	29·813	29·882	·119

N. B.—The means of the last five months have been corrected to the elevation (150 feet) at which the barometer had been during the previous portion of the year. See note to Table I. p. 3.

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	23·325	23·305	23·358	23·300	23·336	·058
February	23·329	23·307	23·356	23·310	23·344	·046
March	23·301	23·282	23·327	23·278	23·316	·049
April	23·342	23·317	23·371	23·319	23·360	·052
May	23·280	23·263	23·308	23·261	23·289	·047
June	23·263	23·242	23·289	23·242	23·278	·047
July	23·214	23·191	23·238	23·200	23·228	·038
August	23·261	23·236	23·291	23·244	23·272	·047
September	23·341	23·315	23·369	23·325	23·354	·044
October	23·407	23·381	23·435	23·390	23·422	·045
November	23·426	23·405	23·449	23·410	23·440	·039
December	23·416	23·403	23·437	23·393	23·430	·044

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·578	29·570	29·648	29·500	29·596	·148
February	29·535	29·522	29·608	29·461	29·549	·147
March	29·433	29·425	29·512	29·360	29·435	·152
April	29·391	29·376	29·462	29·320	39·405	·142
May	29·251	29·247	29·316	29·189	29·253	·127
June	29·250	29·241	29·302	29·187	29·268	·115
July	29·168	29·162	29·217	29·111	29·181	·106
August	29·232	29·223	29·284	29·172	29·251	·112
September	29·333	29·322	29·390	29·271	29 348	·119
October	29·393	29·378	29·450	29·337	29·409	·113
November	29·524	29·514	29·581	29·467	29·535	·114
December	29·615	29·617	29·670	29·550	29·621	·120

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	25·26	25·264	25·298	25·215	25·267	·083
February	25·259	25·252	25·293	25·221	25·269	·072
March	25·204	25·203	25·236	25·158	25·219	·078
April	25·176	25·167	25·208	25·138	25·191	·070
May	25·065	25·065	25·100	25·019	25·075	·081
June	25·088	25·084	25·122	25·050	25·098	·072
July	25·064	25·051	25·092	25·043	25·070	·049
August	25·104	25·091	25·145	25·064	25·117	·081
September	25·197	25·195	25·232	25·144	25 216	·088
October	25·263*		25·303	25·220		·083
November	25·304*		25·332	25·277		·055
December	25·311*		25·349	25·273		·076

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·738	29·720	29·799	29·698	29·736	·101
February	29·681	29·656	29·745	29·639	29·686	·106
March	29·601	29·598	29·663	29·551	29·604	·112
April	29·499	29·484	29·561	29·449	29·502	·112
May	29·318	29·308	29·380	29·273	29·312	·107
June	29·289	29·285	29·335	29·240	29·298	·095
July	29·239	29·231	29·281	29·194	29·251	·087
August	29·325	29·314	29·370	29·280	29·337	·090
September	29·434	29·418	29·481	29·390	29·446	·091
October	29·577	29·564	29·628	29·531	29·585	·097
November	29·730	29·704	29·784	29·692	29·740	·092
December	29·802	29·782	29·857	29·761	29·808	·096

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·089	29·065	29·143	29·058	29·091	·085
February	29·044	29·012	29·100	29·008	29·056	·092
March	28·977	28·955	29·032	28·947	28·976	·085
April	28·892	28·872	28·958	28·855	28·884	·103
May	28·702	28·687	28·756	28·667	28·697	·089
June	28·670	28·671	28·725	28·636	28·650	·089
July	28·622	28·617	28·669	28·592	28·613	·077
August	28·703	28·691	28·748	28·670	28·703	·078
September	28·835	28·817	28·885	28·801	28·836	·084
October	28·961	28·950	29·016	28·924	28·953	·092
November	29·093	29·072	29·141	29·061	29·098	·080
December	29·154	29·137	29·202	29·117	29·159	·085

Table IV.—Barometric monthly means for 1870 reduced to Sea Level.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	Year.
Port Blair ...	29·863*	29·894*	29·872*	2·9831*	29·765*	29·777*	29·765*	29·764*	29·804*	29·846*	29·894*	29·947*	29·835
Madras ...	·925*	·945*	905*	·809*	·688*	·709*	·725*	·755*	·784*	·837*	·960*	30·023*	·839
Vizagapatam ...	·900	·905	·876	·816	·658	·663	·597	·659	·716	·828	·955	·045	·801
Akyab ...	?	·938	·887	·838	·723	·760	·704	·702	·802	·883	·970	·013	
False Point ...	30·042	30·018	·937	·842	·687	·680	·600	·669	·763	·885	30·014	·101	·853
Cuttack ...	·018	29·989	·911	·807	·640	·651	·590	·677	·760	·884	·017	·087	·838
Chittagong ...	29·962	·940	·864	·811	·744	·724	·638	·674	·779	·870	29·971	·036	·834
Saugor Island ...	·981	·950	·873	·782	·636	·630	·541	·617	·721	·845	·974	·048	·800
Calcutta ...	981	·944	·859	·776	·618	·621	·541	·615	·722	844	·977	·048	·795
Hazareebaugh ...	·996	·943	·854	·749	·540	·537	·506	·567	·717	·842	·985	·061	·773
Jessore ...	·975	·955	·852	·770	·621	·624	·542	·611	·723	·843	·978	·042	·795
Berhampore ...	·977	·932	·844	·764	·590	·610	·535	·611	·716	·842	·984	·052	·788
Dacca ...	·970	·938	·854	·784	·642	·654	·574	·629	·743	·852	·971	·034	·804
Cachar ...	·982	·936	·829	784	·643	·641	·560	·623	·725	·785	·922	·019	·787
Goalparah ...	·976	·952	·867	·803	·666	·671	·604	·645	·759	·850	·963	·026	·898
Monghyr ...	·981	·926	·824	·741	·554	·546	·489	·579	·667	·807	·957	·026	·758
Patna ...	30·011	·964	·873	·769	·579	·569	·524	·602	·710	·855	30·004	·074	·797
Benares ...	·018	·957	·871	·765	·579	·551	·504	·591	·700	·845	·010	·082	·789
Roorkee ...	·045	·963	·885	·778	·561	·531	·491	·578	·717	·855	·015	·095	·791
Darjeeling ...	·008	969	·860	·850	·682	·643	·556	·621	750	·875	·018	·119	·829
Shillong ...	29·984	·950	·826	·756	·576	·608	·569	·623	748	·843	·005	·091	·798

I have not included the Dholebagaun registers in the preceding table as there still is considerable uncertainty as to the elevation of the station. The registers for 1869 gave an elevation of 575ft. by comparison with those of Goalparah: those of 1870 an elevation of only 362ft. while the mean of the above and of the results of comparison with Cachar for the last eighteen months is 463ft. The last may be provisionally adopted. The means of the readings at 8h. 16h. and 22h. for each month of 1870 being as follows:

January	...	29·550	July	...	29·157
February	...	·517	August	...	·233
March	...	·476	September	...	·283
April	...	·436	October	...	·513
May	...	·257	November	...	·627
June	...	·253	December	...	·690

the mean monthly pressures at sea-level become—

January	...	30·090	July	...	29·624
February	...	·003	August	...	·700
March	...	29·959	September	...	·753
April	...	·913	October	...	·987
May	...	·727	November	...	30·106
June	...	·722	December	...	·181

The annual oscillation of the means of the months was therefore only 0·533 ins. (at sea-level 0·557 ins.) in 1870, while in 1869 it amounted to 0·720. If, as seems probable, the elevation now adopted be nearer the truth than that deduced from a comparison with Goalparah alone in 1869, the depression in June and July 1869 must have been considerably greater, relatively to Bengal, even than was inferred in the Report for that year, while in the corresponding months of 1870 it was less than that of Lower Assam (Goalparah) or Cachar.

In the Report on the meteorology of Bengal for 1869, I drew attention to what appeared to be an important local peculiarity of the distribution of pressure, viz., the remarkable persistence not only of its greater and more prominent features, (which might have been expected,) but also of those minor irregularities, which tend to impress on each season a more or less distinctive character. The registers of 1870 fully bear out the inference drawn from those of the two previous years. The isobaric charts that have been prepared for each fortnight of the past year, while they have certain dominant features in common with the charts for 1868 and 1869, shew also minor peculiarities which are repeated from month to month with slight variation. Since the barometer has been systematically registered only for three years, it is obviously impracticable, at present, to estimate the amount of these irregularities, regarded as deviations from a normal standard. The utmost that can be done is to distinguish between those features which are more or less recurrent and those which are not so, in the last three years. And this I shall do, beginning with the state of the atmosphere in the N. E. monsoon.

In October there appears to be, as a general rule, a nearly uniform pressure on both coasts of the Bay and over Bengal and Northern India, (I am unable to speak of other parts of India, but it is probable that the same remark applies to the whole region). In November and December the pressure rises most rapidly in the N. W. Provinces and in Behar ; more in Bengal than in Madras, and more on the Indian than on the Burmese coast of the Bay. At Port Blair the whole annual oscillation is very small (between 0·1 and 0·2 of an inch). On the West coast of India, in the cold weather months, the pressure is lower than on the East coast, as appears from a comparison of the Bombay registers with those of Calcutta. In the cold weather of 1868-69 and again in that of 1869-70, but not in that of 1867-68, False Point and Cuttack had a higher barometer than Calcutta or any of the stations in the delta, and in 1870 this local excess of pressure in Orissa lasted throughout the year.

In January 1870, the pressure was every where lower than in the two previous years, especially in the South of the Bay of Bengal. The mean pressure at Port Blair being lower in January than in February. A cyclone occurred on the 10th and 11th January in the latitude of Ceylon about in the middle of the Bay.

In March, the pressure in Lower Bengal begins to fall below that of Madras; and in 1870 it was about the same as in Ceylon in this month, while a higher pressure prevailed along the East coast of India from below Madras to beyond False Point. In Cachar, the pressure remained higher than over the delta, throughout the cold weather, and was about the same as at Chittagong up to the end of April. It is possible that we have herein the cause of the absence of the usual rains in Cachar in March and April, which was severely felt by the tea planters of that district; but this cannot be determined in the absence of data for previous years, when the usual rains have occurred. It may be noticed that, as the Dholebagaun registers shew, in Upper Assam, possibly therefore over the intervening region, the barometer was much higher than in the previous year.

In April and May the region of lowest pressure, as far as regards Bengal, appears to be to the West of the delta including Hazareebaugh and Monghyr. At these two stations, in each of the three years 1868-70 the pressure has been lower than in the delta on the one hand, or in Behar and the N. W. Provinces on the other. It is here that the dry westerly winds of Upper India and the southerly winds that prevail in the delta during the hot weather months meet, and in their meeting give rise to the North Westers which prevail in Lower Bengal, especially in March and April. It may be inferred that in June the pressure over the Punjaub and Upper part of the N. W. P. sinks as low as over the Hazareebaugh country or lower. At Roorkee indeed, the only station that has hitherto furnished a comparable register, the pressure is at no time of year much below that of Monghyr; but it may be assumed that, owing to its situation immediately under the hills, the barometer stands somewhat higher there than on the heated plains to the southward. At Patna and Benares, it is remarkable that as a rule the pressure

remained slightly higher than at Monghyr, throughout the rains, in each of the three years. It is clear therefore that this fact alone is insufficient to account for the deficient rains of the N. W. Provinces in 1869, for in 1870 there was no deficiency.

As compared with the averages of fifteen years the mean pressures for each month of 1870 at Calcutta were as follows:

January	...	—·063	July	...	+·014
February	...	—·023	August	...	+·004
March	...	—·019	September	...	+·069
April	...	·0	October	...	+·009
May	...	—·055	November	...	+·008
June	...	+·060	December	...	·0
	Mean of year		...	—·005	

Temperature of air.

During the past year, the temperature of the air has been observed under the conditions described in the report for 1869. At all the stations under the superintendence of the Department, except Akyab, Darjeeling, Cuttack and False Point, the thermometers are exposed under a thatched shed open all round. At Benares I find that they are suspended on a stand of the pattern figured in Coll. James's Book of Instructions. With respect to other stations which contribute registers I have no exact information.

Of the thermometers in use at the several stations, only a few minimum instruments of old construction had been tested previously to being issued; and hence the temperature registers for past years are necessarily uncorrected for instrumental errors. In order to ascertain these errors, standard thermometers constructed by Casella, and furnished with the Kew corrections, have been issued to all the stations under the department; that is, to all those for which the registers are here given, except Port Blair, Madras, False Point, Calcutta, Vizagapatam, Benares and Roorkee, and these thermometers have been placed side by side with the other thermometers in the shade, and regularly recorded at the same hour. The standards, being larger and less sensitive than the dry bulb thermometers generally used for recording the temperature, as a rule read lower than the latter at 10h and 16h, higher at 4h and 22h; but by taking the means of the four readings, the differences thus arising may be considered as neutralized. To determine the errors of the dry bulb thermometers, I have compared all the readings recorded during a fortnight in May, a fortnight in December, and the whole month of July, (the month of least diurnal range), and have adopted the mean error thus deduced after applying the Kew correction of the standard.

The following errors exceeding 0·3° have been thus determined, and corresponding corrections have been applied to the present registers. The remaining stations, (except Shillong and Akyab which are uncertain,) give smaller amounts which may be neglected.

Errors of the dry bulb thermometers hitherto registered at certain Stations.

Dacca	—0·4	Berhampore	+0·5
Chittagong	+0·6	Patna	—1·7
Saugor Island	+1·0		

The mean of the four periods of observation is adopted as the mean diurnal temperature, for all stations at which the six hourly readings are registered. In the case of Port Blair I have taken the mean of the minimum and 16h readings as in former reports, and a similar course has been followed in that of Shillong for a few months in which the 4h and 22h readings are untrustworthy. These are marked with a (*). The extreme temperatures and the 4h and 22h means for five months at Akyab are entirely omitted for the same reason. A few other hiatus will be noticed which are due to the instruments having been wanting or out of order. For Madras I have obtained a mean temperature by applying the corrections determined for that station by Professor Dove, to the 10h and 16h readings. These are marked with (†).

All temperatures are given on the Fahrenheit scale.

Table V.—Maximum, Minimum, and Mean Monthly Temperatures for 1870.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range	Mean of Min.	Highest Max		Monthly range.	Lowest Min.	
									Day	⊖		Day	⊖
January...	78·4*		81·2	82·2		82·7	8·0	74·7	28th	84·0	12·0	12th	72·0
February...	77·3*		80·0	81·8		82·5	9·7	72·8	15-16th	85·0	15·0	23rd	70·0
March ...	78·9*		83·0	85·3		86·1	13·6	72·5	26th	90·0	20·0	23rd	70·0
April ...	81·2*		86·5	86·9		89·3	13·8	75·5	30th	94·0	21·0	15th	73·0
May ...	80·2*		84·4	84·6		88·0	12·2	75·8	25th	91·0	17·0	29th	74·0
June ...	79·5*		83·1	83·5		86·3	10·7	75·6	4th	90·0	18·0	23rd	72·0
July ...	79·4*		83·4	82·8		86·2	10·1	76·1	3rd	92·0	20·0	20th	72·0
August ..	78·2*		81·9	81·6		84·8	10·0	74·8	26th	88·0	16·0	31st	72·0
September	79·1*		82·6	82·6		85·0	9·4	75·6	10th	89·0	16·0	17th	73·0
October...	78·9*		83·4	83·1		86·1	11·3	74·8	10th	91·0	19·0	20th	72·0
November	78·6*		82·3	81·8		84·6	9·4	75·4	8th	89·0	18·0	24th	71·0
December	78·1*		80·2	81·1		82·9	7·7	75·2	31st	84·0	14·0	29-30th	70·0

MADRAS.

	Mean.	4h.	10h.	16h.	22h.	
January	76·6†		80·1	79·8		
February	78·5†		81·7	82·6		
March	81·8†		83·8	84·8		
April	86·3†		91·1	88·4		
May	91· †		96·6	91·7		
June	86·2†		88·8	89·4		
July	84·1†		85·4	88·1		
August	84·1†		85·1	86·8		
September	82·5†		84·1	85·8		
October	81·2†		83·8	83·9		
November	79·8†		82·8	82·9		
December	76·1†		78·9	79·1		

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day	⊖		Day.	⊖
Jany. ...	78·6	75·7	78·7	81·9	78·2	81·8	6·8	75·0	7th	84·5	14·5	30th	70·0
Febry ...	78·0	74·7	78·6	81·4	77·2	81·7	8·1	73·6	15th	83·8	13·8	2nd	70·0
March...	82·1	79·4	82·8	84·7	81·4	85·5	8·4	77·1	30th	90·3	21·3	7th	69·0
April ...	85·7	83·5	87·1	87·3	84·8	88·3	5·5	82·8	26th	90·5	11·5	4th	79 0
May ...	89·3	87·2	90·6	91·0	88·5	91·9	5·7	86·2	30th	102·1	18·1	25th	84·0
June ..	86·8	85·6	87·6	87·8	86·1	88·7	4·0	84·7	4th	93·7	14·7	19th	79·0
July ..	84·7	83·1	84·9	86·7	84·2	87·2	4·6	82·6	29th	92·0	14·0	18th	78·0
August	85·8	84·2	86·3	87·5	85·3	88·1	4·3	83·8	3rd	91·2	10·2	6th	81·0
Sept. ..	84·3	82·9	84·7	85·7	83·9	86·2	3·5	82·7	24th	89·6	9·1	23rd	80·5
October.	82·6	81·4	82·9	84·0	82·0	84·7	3·7	81·0	16th	88·0	10·0	31st	78·0
Novr. ..	80·2	77·9	80·9	82·5	79·3	83·1	5·6	77·5	10th	86·3	13·5	29th	72·5
Decr. ...	74·2	70·6	75·1	77·8	73·4	78·2	8·4	69·8	4th	82·0	16·2	21st	65·8

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January													
Feb. ...			72·8	80·9									
March			80·4	85·2									
April ...			83·6	85·1									
May ...			83·8	85·4									
June ...	82·7	81·5	82 9	84·1	82·5								
July ...	81·0	80 0	81·3	81·5	81·3								
August	81·2	79·8	81·3	82·3	81·3								
Sept. ...	81·8	80·4	81·8	83·4	81·5								
October	81·8	79·4	81·9	84·8	81·0								
Novr. ...	78·7	76·3	78·6	82·3	77·6								
Decr. ...	71·7	67·7	70·9	77·2	71·2								

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	70·6	65·0	72·4	75·0	70·1
February	73·9	66·8	76·6	78·1	74·1
March	79·8	75·4	81·5	83·0	79 2
April	83·7	80·8	85·6	86·1	82·5
May	87·5	85·6	88 9	88·7	86·6
June	86·8	85·0	87·9	88·0	86·5
July	85·9	84·6	86·9	86·8	85·2
August	85·3	83·8	86·1	86·4	85·0
September	85·7	84·4	86·5	86·5	85·6
October	85·1	83·5	85·8	86·2	85·0
November	78·9	75·8	79·9	81·2	78·6
December	69·2	63·9	69·7	73·8	69·5

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
Jan. ...	70·0	61·4	71·7	78·9	68·1								
Feb. ...	73·1	63·0	75·0	82·9	71·6								
March...	79·6	71·0	81·3	88·1	78·2			68·3				3rd	58·6
April ...	85·7	78·7	87·8	93·1	83·4	93·8	17·4	76·4	24th	98·0	27·5	2nd-4th	70·5
May ...	91·6	85·1	93·7	98·4	89·1	99·0	15.2	83·8	30th	105·0	30·5	23rd	74·5
June ...	87·7	83·2	90·5	91·3	85·7	92·9	10·3	82·6	3rd	100·0	21·4	20th	78·6
July ...	85·3	82·2	86·8	87·9	84·2	88·9	7·5	81·4	13th	94·0	15·4	27th	78·6
August...	84·2	81·6	85·7	86·5	83·0	87·8	8·1	79·7	12th	91·0	14·5	31st	76·5
Sept. ...	83·4	80·9	85·0	85·4	82·5	87·8	9·0	78·8	19th	95·0	18·5	11-12th	76·5
October	82·2	79·2	83·9	84·7	80·9	87·3	9·8	77·5	27th	95·0	21·5	23rd	73·5
Novr. ...	75·0	70·8	76·6	79·8	72·8	81·5	11·5	70·0	1st	95·0	32·5	27-28th	62·5
Decr. ...	66·1	59·0	68·2	74·1	63·2	75·7	16·4	59·3	12th	92·0	36·3	21st	55·7

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
Jan. ..	68·4	61·3	70·7	77·0	64·5	78·5	20·5	58·0	6th	82·9	32·6	14th	50·3
Feb. ..	75·1	70·6	76·0	80·9	72·9	82·5	15·4	67·1	14th	87·6	28·7	1st	58·9
March ..	80·2	76·6	82·0	83·9	78·5	86·3	11·7	74·6	8th	91·4	25·0	4th	66·4
April ..	83·7	80·1	85·4	87·2	82·2	89·3	11·7	77·6	29th	96·6	28·6	11th	68·0
May ..	86·3	84·4	88·4	88·6	84·0	90 8	8·6	82·2	19th	92·8	19·5	21st	73·3
June ..	85·7	84·0	87·2	87·4	84·1	89·7	7·9	81·8	16th	91·6	14·8	3rd	76·8
July ..	85·0	83·0	86·1	86·7	84·3	88·8	7·7	81·1	14th	91·5	14·1	31st	77·4
August..	82 8	81·2	83·5	84·5	81·8	86·7	7·5	79·2	11th	89·7	13·3	31st	76·4
Sept. ..	83·4	80·8	84·8	85·5	82·4	87·4	8·7	78·7	18th	90·2	14·7	4th	75·5
October...	81·8	79·0	83·8	84·0	80·5	86·9	9·5	77·4	13th	89·4	16·5	24th	72·9
Novr. ...	75·6	71·3	77·8	80·9	72·6	82·4	12·9	69·5	6th	86·9	26·4	25th	60·5
Decr. ...	66·6	60·4	68·9	74·9	62·4	76·2	18·4	57·8	31st	83·0	28·5	20th	54·5

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day	⊖		Day.	⊖
Jan. ...	68·9	58·2	73·9	76·9	66·5							25th	50·0
Feb. ..	72·3	60·7	78·0	81·3	69·0			57·8				1st	51·9
March ...	78.4	67·8	84·8	86·4	74·8			65·6				3rd	58·0
April ...	81·2	74·0	86·2	87·1	77·8			71·4				10th	50·2
May ..	84·4	78·1	89·1	89·1	81·4	91·3	14·3	77·0	18th	95·5	20·8	31st	74·7
June ...	81·9	77·3	85·2	85·5	79·5	88·3	12·1	76·2	18th	91·1	18·8	21st	72·3
July ...	81·4	77·6	84·5	84·5	79·2	87·1	10·9	76·2	17th	90·1	15·9	2nd	74·2
August ...	81·6	77·6	83·8	85·1	79·7	86·7	10·7	76·0	18th	90·2	16·6	25th	73·6
Sept. ...	81·3	77·4	84·3	84·8	79·0	87·0	11·9	75·1	14th	92·5	20·7	23rd	71·8
October ...	81·0	76·3	83·5	85·7	78·7	87·6	13·5	74·1	31st	98·2	27·5	18th	70·7
Novr. ...	75·6	68·6	79·4	81·6	72·5	84·6	17·6	67·0	1st	93·0	35·5	26th	57·5
Decr. ...	66·9	58·4	70·1	75·0	64·2	87·1	23·1	55·0	15th	81·3	30·8	20th	50·0

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day	⊖		Day.	⊖
January.	68·1	61·2	69·0	76·5	62·6	77·8	18·0	59·8	19th	83·2	27·8	10th	55·4
February	74·6	66·7	75·6	84·5	71·6	85·1	19·8	65·3	27th	88·2	30·6	1st	57·6
March..	81·4	73·5	82·7	90·9	78·4	91·4	19·4	72·0	30th	101·2	38·2	1st	63·0
April ..	84·5	77·6	86·7	93·2	80·7	94·5	18·3	76·2	1st	98·6	30·9	11th	67·7
May ..	88·0	81·9	91·0	95·1	84·0	97·2	16·7	80·5	9th	103·6	28·6	19th	75·0
June ..	84·7	81·2	87·0	88·7	82·1	90·5	10·7	79·8	1st	97·5	21·0	1st	76·5
July ..	83·8	80·9	85·6	86·2	82·7	89·1	8·6	80·5	14th	93·7	15·2	31st	78·5
August	82·4	79·9	83·4	85·0	81·4	87·1	7·7	79·4	9th	91·8	15·3	24th	76·5
Sept. ..	83·3	80·4	85·3	85·4	81·9	88·3	8·5	79·8	20th	92·0	14·2	5th	77·8
October	82·6	79·3	84·2	86·0	80·9	87·8	9·3	78·5	21st	91·6	16·6	24th	75·0
Novr. ..	76·1	71·6	78·0	80·5	74·1	82·2	11·4	70·8	2nd	87·0	25·0	26th	62·0.
Decr. ...	66·8	60·3	68·5	74·2	64·3	75·6	16·5	59·1	31st	80·1	23·1	20th	57·0

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ...	64·8	52·8	72·2	77·6	57·0	80·1	29·4	50·7	19th	86·7	43·3	15th	43·4
Feb. ...	71·3	57·0	78·6	85·7	63·8	88·1	32·5	55·6	13th	92·7	47·3	1st	45·4
March...	79·7	68·3	85·6	91·6	73·3	95·3	29·8	65·5	30th	104·5	49·7	10th	54·8
April ...	83·5	74·1	88·5	93·0	78·4	96·2	23·7	72·5	1st	104·9	42·4	11th	62·5
May ...	86·7	79·9	91·4	93·0	82·7	96·6	18·2	78·4	3rd	104·5	32·5	20th	72·0
June ...	84·0	79·8	87·6	87·4	81·3	91·2	12·6	78·6	11-12th	97·0	24·1	2nd	72·9
July ...	83·4	80·0	86·8	85·3	81·6	89·8	10·6	79·2	6th	93·0	15·5	10th	77·5
August	82·4	79·3	84·5	85·1	80·7	88·4	10·5	77·9	11th	92·0	17·1	4th	74·9
Sept. ...	82·8	78·7	86·1	85·6	80·6	89·3	11·3	78·0	19th	92·0	16·4	11th	75·6
October	81·0	76·7	85·0	84·2	78·3	88·7	13·0	75·7	2nd	96·0	24·0	25th	72·0
Novr. ...	73·4	66·2	79·3	80·0	68·1	83·5	18·3	65·2	6th	89·0	33·4	30th	55·6
Decr.	63·5	52·2	71·3	74·7	56·0	77·3	26·5	50·8	31st	82·2	35·0	21st-22nd	47·2

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ...	67·9	59·1	72·9	75·8	63·8	79·5	24·9	54·6	20th	85·5	37·2	27th	48·3
Feb. ...	72·9	62·8	77·6	82·7	68·4	85·7	26·6	59·1	24th	89·5	36·4	18th	53·1
March ...	79·0	69·1	84·0	88·8	74·2	91·7	25·7	66·0	30th	101·2	44·1	1st	57·1
April ...	82·4	74·4	86·1	90·5	78·6	93·5	22·3	71·2	29th	100·8	41·1	11th	59·7
May ...	85·2	79·8	88·6	90·3	82·2	94·3	15·5	78·8	17th	99·6	29·2	22nd	70·4
June ...	83·3	79·7	85·9	86·2	81·2	89·9	13·1	76·8	6th	94·0	20·9	21st	73·1
July ...	82·8	80·1	84·7	85·0	81·5	88·5	11·4	77·1	4th	93·0	18·5	21st	74·5
August...	82·7	80·5	84·0	85·2	81·3	87·4	11·0	76·4	9th	91·0	18·1	23rd	72·9
Sept. ...	82·5	79·9	84·4	84·4	81·3	88·0	12·1	75·9	14th	93·0	20·6	11th	72·4
October...	82·1	78·1	85·4	85·1	79·8	88·4	14·4	74·0	2nd	91·3	22·9	8th	68·4
Novr. ...	75·4	69·6	80·3	79·7	72·1	83·7	18·8	64·9	1st	90·2	33·4	27th	56·8
Decr. ..	67·4	59·5	72·6	73·8	63·9	77·1	22·1	55·0	1-3rd	79·0	26·6	1st	52·4

CACHAR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January	64·7	54·6	66·6	77·8	60·1	78·6			20th	85·0			
Feb. ...	68·4	57·9	70·9	81·6	63·4	82·6	27·3	55·3	24th	90·0	41·0	17th	49·0
March ...	74·1	62·3	78·0	87·2	69·0	88·3	28·8	59·5	30th	97·0	46·0	14th	51·0
April ...	79·6	70·7	82·7	89·6	75·5	91·2	23·6	67·6	29th	98·5	38·5	6th	60·0
May ...	82·9	77·1	84·3	90·0	80·1	91·1	17 3	73·8	16th	95·0	28·0	18th	67·0
June ...	80·7	76·6	83·6	83·6	78·9	87·2	12 0	75·2	19th	95·0	24·0	10th	71·0
July ...	82·4	78·9	83·7	86·9	80·2	88·5	11·9	76·6	27-28th	92·0	18·0	8th	74·0
August	81·6	78·1	82·6	85·9	80·0	87·2	10·4	76·8	30th	92·0	17·0	24th	75 0
Sept. ...	81·2	77·7	82·1	85·8	79·4	86·8	11·0	75·8	20th	93·0	21·0	24th	72 0
October	80·3	75·3	81·5	86·6	78·0	87·4	14·2	73·2	31st	92·0	21·0	26-27th	71·0
Novr. ...	73·6	66·9	75·5	82·1	70·1	82 8	18·3	64·5	1st	90·0	35·0	27-28th	55·0
Decr. ...	64·4	55·3	66·2	76·0	60·1	76·4	24·1	52·3	15th	79·0	33·0	24th	46·0

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range	Mean of Min.	Highest Max.		Monthly range.	Highest Max.	
									Day.	°		Day.	°
Jan. ...	62·2	54·5	65·2	70·2	59·1	72·6	21·3	51·3	11th	79·0	36·0	24th	43·0
Feb. ...	68·3	59·2	72 7	77·4	64·1	79·7	24·0	55·7	8th-9th	84·0	35·0	16th	49·0
March...	74·6	65·3	79·3	83·3	70·5	86·6	24·1	62·5	30th	98·0	41·0	9th	57·0
April ...	80·7	71·0	85·8	89·2	76·7	93·4	25·9	67·5	23rd	101·0	42·0	10th	59·0
May ...	90·4	79·6	96·4	99·9	85·6	103·2	26·3	76·9	17th-19th	106·0	33·0	22nd	73·0
June ...	82·4	77·6	86·6	85·7	79·6	92·9	18·2	74·7	5th	108·0	40·0	11th	68·0
July ...	78·4	75·5	80·9	80·3	76·8	85·0	11·5	73·5	1st	88·0	16·0	25-27th	72·0
August	77·2	74·1	79·4	79·5	75·6	83·4	11·3	72·1	7th	91·0	21·0	26th	70·0
Sept. ..	77·2	73·7	79·8	79·9	75·5	83·8	12·1	71·7	16th-18th	87·0	17·0	13th	70·0
October	75·4	71·0	78·6	79·3	72·7	83·1	15·0	68·1	7th	88·0	25·0	31st	63·0
Novr. ...	67·4	61·2	71·8	73·1	63·6	76·2	19·0	57·2	7th	82·0	35·0	25th	47·0
Decr. ...	60·9	53·5	65·2	67·9	56·9	70·8	21·2	49·6	31st	76·0	33·0	6th	43·0

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ...	66·5	56·5	70·2	77·1	62·1	78·3	23·5	54·8	19th	85·0	36·0	1st	49·0
Feb. ...	72·2	59·4	76·6	85·3	67·6	86·8	28·7	58·1	27th	91·0	39·0	1st	52·0
March	79·8	66·6	85·2	92·4	75·0	95·0	29·3	65·7	30th	106·5	47:5	9th	59·0
April...	85·6	74·8	88·9	96·9	81·7	99·7	26·1	73·6	23rd	107·0	43·5	11th	63·5
May ...	90·5	81·0	92·5	102·0	86·5	105·0	25·3	79·7	4th	113·0	41·0	28th	72·0
June...	85·2	79·9	87·9	90·6	82·5	94·5	15·4	79·1	8th	101·5	28·5	14th	73·0
July ...	84·1	80·4	86·3	87·5	82·4	91·6	11·9	79·7	2nd	97·0	20·0	8th-10th	77·0
August	83·1	79·8	85·3	85·8	81·5	90·3	11·0	79·3	8th	94·5	17·0	21st	77·5
Sept....	84·0	80·1	86·2	87·4	82·4	90·6	11·0	79·6	20th	94·0	18·0	23rd	76·0
October	82·5	78·1	85·0	86·8	80·1	90·3	12·8	77·5	2nd	95·0	23·5	31st	71·5
Novr....	74·6	67·3	78·1	81·7	71·4	83·9	17·3	66·6	7th	89·0	31·0	25th-26th	58·0
Decr....	65·7	56·6	69·0	75·2	62·1	76·8	21·7	55·1	31st	80·5	29·0	19th	51·5

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ...	62·7	52·0	67·7	73·9	57·3	75·8	29·1	46·7	19th	82·3	42·4	9th	39·9
Feb. ...	68·6	56·6	74·7	80·5	62·5	82·2	30·7	51·5	28th	87·3	42·4	1st	44 9
March	77·7	64·1	84·4	89·3	71·9	91·9	31·3	60·6	30th	102·3	48·4	4th	53·9
April ...	84·7	72·1	91·0	96·6	79·1	98·7	31·4	67·3	18th	106·3	45·4	10th	60·9
May ...	92·4	80·1	98·4	104·2	86·8	106·8	32·4	74·4	14th	113·3	44·4	22nd	68·9
June ...	89·1	82·1	92·3	95·9	86·0	100·2	21·2	79·0	8-11th	111·3	36·4	21st	74·9
July ...	85·3	81·7	87·6	88·6	83·5	91·6	12·9	78·7	19th	96·3	20·4	8th	75·9
August	84·6	81·0	86·6	88·0	82·7	90·4	12·4	78·0	7th	102·3	27·4	25th	74·9
Sept. ...	84·1	80·1	86·0	88·2	81·9	90·0	13·3	76·7	16th-17th	95·0	22·1	25th	72·9
October	80·5	74·7	84·9	85·8	75·7	88·3	17·4	70·9	12th-17th	94·3	31·4	18th	62·9
Novr. ...	70·7	61·9	76·9	79·2	64·8	82·1	24·5	57·6	1st-3rd	87·3	40·4	26th	46·9
Decr. ...	61·8	51·0	68·1	72·8	55 4	75·1	29·1	46·0	31st	79·3	37·4	5th	41·9

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January	62·9	54·8	63·3	73·4	60·1	74·1	22·8	51·3	18th-19th	81·0	40·0	9th	41·0
Feb. ...	69·0	59·8	70·1	80·2	66·0	81·5	24·9	56·6	26th	87·0	39·0	19th	48·0
March	77·1	67·3	78·4	88·3	74·4	89·9	26·1	63·8	30th	101·0	45·0	9th	56·0
April ...	83·6	73·5	86·1	94·3	80·5	96·4	26·6	69·8	23rd	104·0	42·0	11th	62·0
May ...	90·1	80·2	92 7	100·4	87·3	102·8	25·8	77·0	14th	109·0	39·0	26th	70·0
June ...	86·1	81·0	88·4	91·4	83 5	95·9	17·6	78·3	8th-9th	105 0	31·0	21st	74·0
July ...	83·8	80·8	85·2	86·8	82·3	89·8	10·7	79·1	8th	94·0	18·0	17th	76·0
August	83·4	81·3	83·7	85 6	82·8	87·3	8·6	78·7	7th	94·0	19·0	25th	75·0
Sept. ...	82·8	79·4	84·6	86·2	81·1	88·7	11·5	77·2	8th	96·0	23·0	25th	73·0
October	80·6	76·2	82 8	84·9	78·5	86·6	12·5	74·1	2nd-3rd	93·0	26·0	27th	67·0
Novr....	71·4	65 0	73·4	78·6	68·6	80·4	17·5	62·9	1st-5th	86 0	34·0	29th	52·0
Decr. ...	62·9	55·4	64·5	71·9	59·8	73·3	20·9	52·4	31st	77 0	28·0	4th	49·0

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ..	43·5	34·9	47·4	49·8	41·9	54 2			31st	62 0	30·0	27th	32·0
Feb. ..	46·3	39·9	49·1	51·6	44·7	57·4			27th	68·0	33·0	10th	35·0
March	51 0	43·5	55·0	57·3	48·1	63·1			31st	72·0	33·0	13th-14th	39·0
April	54·9	49·4	59·7	58·5	52·1	65·7			30th	78·0	38·0	10th	40·0
May ...	60·8	57·3	63·8	63·3	59·0	68·8	14·6	54·2	8th	79 0	26·0	15th	53·0
June...	62·0	58·7	64·2	64·3	60·9	68·3	11·9	56·4	25th	73·0	20·0	14th	53·0
July ...	63·7	60·8	65·7	66·1	62·3	69·3	9·8	59·5	28th	75·0	17·8	21st	57·2
August	63·4	60·1	65·8	65·8	61·8	68·3	10·4	57·9	27th	75·0	19·8	2nd	55·2
Sept...	61·5	57·4	64·7	64·3	59·5	68·8	13·2	55·6	14th	75·0	22·8	14th	52·2
October	58·7	53·5	63·0	62·5	55·7	67·1	16·6	50·5	1st	77·0	32·8	30th	44·2
Novr....	50·9	46·2	55·6	53·8	48·1	60·7	17·0	43·7	4th	74 0	37·8	29th	36·2
Decr ...	43·7	37·4	49·9	47·2	40·1	55·1	19·9	35·2	5th	63·0	31·0	29th	32·0

GOALPARAH.

	Mean	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
Jan. ..	65·4	56·0	68·1	74·2	63·3	76·8	22·7	54·1	20th	80·0	31·0	25th	49.0
Feb. ..	68·9	60·3	69·5	78·2	67·6	80·1	23·0	57·1	27th	86·0	35·0	7th	51·0
March	74·9	63·8	77·9	85·2	72·9	87·8	26·6	61·2	31st	97·0	40·2	2nd	56·8
April..	78·3	70·4	81·6	86·0	75·4	89·0	21·4	67·6	23rd	96·2	37·8	11th	58·4
May ...	80·5	74·7	82·6	85·9	79·0	87·8	15·4	72·4	3rd	99·2	31·2	21st	68·0
June ..	78·5	74·9	79·2	82·3	77·7	84·3	11·8	72·5	2nd	91·1	22·9	1st	68·2
July ..	80·1	77·1	81·6	82·9	79·0	85·7	10·1	75·6	30th	91·9	19·1	1st	72·8
August	81·1	77·2	83·2	84·5	79·7	87·3	11·8	75·5	27th	91·2	18·3	29th	72·9
Sep. ..	79·7	75·9	81·3	82·8	78·7	85·0	11·1	73·9	14th	90·5	20·8	24th	69·7
October	79·4	75·2	81·9	82·8	77·8	84·5	11·1	73·4	3rd	90·5	26·3	26th	64·2
Novr.	72·7	67·3	74·3	77·9	71·3	79·7	14·7	65·0	14th	85·1	29·4	27th	55·7
Decr.	64·1	55·5	65·3	71·2	64·6	73·2	19·9	53·3	1st-2nd	76·1	23·0	23rd-24th	53·1

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of Min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	°		Day.	°
January	52·2	45·0	57·2	57·6	48·9	62·3	19·0	43·3	18th	65·5	28·0	13th	37·5
Feb. ...	55·2	48·7	59·9	60·6	51·8	65·3	17·9	47·4	24th	71·5	31·0	16th	40·5
March	60·8	55·2	64·8	65·7	57·5	69·9	16·3	53·6	30th	78·5	30·5	9th	48·0
April ...	64·4	59·3	68·4	68·5	61·4	74·0	16·3	57·7	30th	80·0	31·5	11th	48·5
May ...	69·2	64·8	72·5	72·6	67·0	76·4	13·1	63·3	15th	81·5	22·5	25th	59·0
June ...	68·8	65·6	70·5	71·6	67·6	74·7	10·5	64·2	4th	79·5	18·5	9th-10th	61·0
July ...	69·8	67·8	70·8	72·7	68·1	74·6	8·3	66·3	27th	78·5	13·5	2nd	65·0
August	69·1	66·4	71·1	71·7	67·4	75·0	10·0	65·0	11th	77·5	14·5	5th	63·0
Sep. ...	66·5*		68·8	69·5		73·0	9·4	63·6	21st	75·5	18·0	11th	57·5
October	63·6*		67·6	67·8		71·6	12·2	59·4	2nd-3rd	76·5	22·0	19th	54·5
Novr. ...	55·7*		60·8	60·8		65·7	15·0	50·7	1st	73·0	30·5	30th	42·5
Decr. ...	47·8*		53·7	53·8		60·4	18·5	41·9	2nd	66·0	31·0	18th	35·0

BENARES.

	Mean	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range	Mean of Min.	Highest Max. Day.	Highest Max. °	Monthly range	Lowest Min. Day.	Lowest Min. °
Jan.	60·7	46·4	69·0	76·1	51·4								
Feb.	67·2	51·9	76·7	83·3	57·1	86·4	40·0	46·4	9th	93·0	54·0	18th	39·0
March	76·9	62·2	85·9	90·9	68·5	94·2	38·3	55·9	31st	106·0	60·0	4th	46·0
April	83·9	68·8	93·0	98·3	75·4	102·8	39·6	63·2	24th	112·0	58·0	5th	54·0
May	93·1	77·9	102·7	107·9	83·8	110·6	38·2	72·4	15th	118·0	55·0	13th	63·0
June	91·6	82·9	97·6	99·7	86·1	104·8	26·1	78·7	2nd	117·0	45·0	29th	72·0
July	85·0	80·3	89·0	89·3	81·5	96·2	20·6	75·6	7th	102·0	30·0	4th	72·0
August	84·2	79·1	88·6	88·8	80·5	95·7	20·5	75·2	20th	101·0	28·0	24th-25th	73·0
Sept.	83·4	78·0	89·2	87·3	79·2	93·6	19·6	74·0	18th	104·0	34·0	12th	70·0
October	79·9	70·9	87·7	87·2	73·8	94·8	28·4	66·4	3rd-4th	103·0	46·0	20th	57·0
Novr.	67·9	55·2	77·7	80·5	58·1	86·0	36·3	49·7	1st-3rd	92.0	52·0	26th	40·0
Decr.	60·0	46·4	67·5	75·2	50·8	78·2	37·9	40·3	2nd	85·0	50·0	5th	35·0

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range	Mean of Min.	Highest Max. Day.	Highest Max. °	Monthly range.	Lowest Min. Day.	Lowest Min. °
Jan.	57·4	44·3	60·1	71·6	53·7	72·8	32·3	40·5	6th	79·2	43·5	13th	35·7
Feb.	64·6	53·3	67·9	77·2	60·1	77·7	29·5	48·2	27th	84·2	43·0	3rd	41·2
March	69·8	59·4	74·4	80·3	65·2	82·2	27·1	55·1	27th	89·7	47·0	10th	42·7
April	79·8	65·8	85·8	92·7	75·0	94·2	41·0	53·2	18th	103·1	47·4	9th	55·7
May	91·7	76·8	98·1	104·8	87·2	107·1	33·1	74·0	17th	112·1	46·4	9th-10th	65·7
June	90·7	82·5	94·0	97·8	88·5	100·9	20·7	80·2	11th	113·0	38·7	28th	74·3
July	84·8	79·9	85·7	90·4	83·1	92·0	13·9	78·1	14th	100·2	28·9	23rd	71·3
August	83·1	78·1	85·3	88·5	80·5	91·2	14·5	76·7	15th	94·2	20·9	26th	73·3
Sept.	81·1	73·8	85·1	88·1	77·2	90·6	17·1	73·6	25th	94·2	25·4	29th	68·8
October	77·2	65·8	82·5	88·9	71·6	91·2	27·2	64·0	8th	95·7	38·5	29th	57·2
Novr.	64·5	50·0	72·4	78·8	56·7	82·7	34·9	47·8	4th-6th	89·2	49·5	21st	39·7
Decr.	57·6	45·2	62·4	70·8	52·1	74·2	32·4	41·8	9th	78·2	40·5	13th	37·7

Table VI.—Mean monthly temperatures of 1870, reduced to Sea-Level.

		Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Octr.	Novr.	Decr.
Ceylon.	Hambantotte	76·7†	78·5†	79·8†	81·8†	80·9†	82·2†	81·7†	81·1†	79·7 †	78·5 †	78·8 †	78·3 †
	Galle	75·9†	78·1†	80·2†	81·1†	80·1†	79·7†	79·2†	77·1†	77·2 †	76·9 †	77·2 †	76·2 †
	Colombo	77·7†	79· †	80·8†	82· †	82·2†	80·6†	79·8†	78·7†	78·2 †	77·5 †	79·2 †	78·8 †
	Kandy	74·6†	77·7†	80·4†	80·8†	81·4†	78·9†	79·1†	76·8†	75·6 †	75·6 †	77·5 †	76·2 †
	Trincomalee	76·3†	78·2†	81·4†	84· †	82· †	83· †	81·6†	?	?	?	?	?
S. India.	Madras	76·7†	78·6†	81·9†	86·4†	91·1†	86·3†	84·2†	84·2†	82·6 †	81·3 †	79·9†	76·2†
	Vizagapatam	78·7	78·1	82·2	85·8	89·4	86·7	84·8	85·9	84·4	82·7	80·3	74·3
E. Coast.	Port Blair	79·1*	78· *	79·6*	81·9*	80·9*	80·2*	80·1*	78·9*	79·8 *	79·6*	79·2*	78·8*
	Akyab						82·7	81·	81·2	81·8	81·8	78·9	71·7
Bengal.	Chittagong	69·2	72·6	78·7	81·5	84·7	82·2	81·7	81·9	81·6	81·3	75·9	67·2
	Cachar	64·9	68·6	74·3	79·8	83·1	80·9	82·6	81·8	81·4	80·5	73·8	64·6
	Dholebagaun	60·8	64·6	68·5	74·5	81·5	82·6	84·3	84·2	81·5	78·8	72·1	62·4
	Shillong	65·8	68·8	74·4	78·	82·8	82·4	83·4	82·7	80·1 *	77·2*	69·3*	61·4*
	Dacca	67·9	72·9	79·	82·4	85·2	83·3	82·8	82·7	82·5	82·3	75·4	67·4
	Goalparah	66·5	70·	76·	79·4	81·6	79·6	81·2	82·2	80·8	80·5	73·8	65·2
	Darjeeling	63·4	66·2	70·9	74·8	80·7	81·9	83·6	83·3	81·4	78·6	70·8	63·6
	Jessore	64·8	71·3	79·7	83·5	86·7	84·	83·4	82·4	82·8	81·	73·4	63·5
	Berhampore	66·7	72·4	80·	85·8	90·7	85·4	84·3	83·3	84 2	82·7	74·8	65·9

Table VI.— Mean monthly temperatures of 1870, reduced to Sea-Level.—(*Continued.*)

		Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sep.	Octr.	Novr.	Decr.
N. W. P. Bengal. (*Continued.*)	Calcutta	68·1	74·6	81·4	84·5	88·	84·7	83·8	82·4	83·3	82·6	76·1	66·8
	Saugor Island	68·4	75·1	80·2	83·7	86·3	85·7	85·	82·8	83·4	81·8	75·6	66·6
	Cuttack	70·2	73·3	79·8	85·9	91·8	87·9	85·5	84·4	83·6	82·4	75·2	66·3
	False Point	70·6	73·9	79·8	83·7	87·5	86·8	85·9	85·3	85·7	85·1	78·9	69·2
	Hazareebaugh	67·9	74·	80·3	86·4	96·1	88·1	84·1	82·9	82·9	81·1	73·1	66·6
	Monghyr	63·3	69·4	77·5	84·	90·5	80·5	84·2	83·8	83·2	81·	71·8	63·3
	Patna	63·2	69·1	78·2	85·2	92·9	89·6	85·8	85·1	84·6	81·	71·2	62·3
	Benares	61·4	67·9	77·6	84·6	93·8	92·3	85·7	84·9	84·1	80·6	68·6	60·7
	Roorkee	59·9	67·1	72·3	82·3	94·2	93·2	87·3	85·6	83·6	79·7	67·	60·1
Central Provinces.	Akola	73·5*	?	?	?	95·1*	85·8*	79·3*	80·5*	80·8*	79·5*	73·8*	67·9*
	Hoshungabád	70·7*	75·8*	82·3*	91·9*	96·9*	90·5*	83·4*	83·5*	84·6*	85·8*	76·5*	69·7*
	Ságar				88·5*	95·1*	88·2*	83·5*	82·1*	82·7*	81·2*	77·4*	70·6*
	Jabalpúr	66· *	?	70· *	84·2*	91·1*	94·3*	82· *	80·8*	82·7*	79·9*	71· *	63·3*
	Pachmarri					95·2*	85·2*	76·8*	75·8*	81·5*	79·8*	74·4*	67·7*
	Seoni	71·3*	75·9*	80·3*	88·9*	97·5*	88·1*	82·8*	82·6*	?	80·2*	74·1*	68·1*
	Nágpúr	73·2*	76·6*	81·9*	?	97·2*	88·5*	80·4*	82·2*	81·6*	80· *	?	67· *
	Raipúr	69·8*	72·9*	79·3*	87·1*	96·5*	88·2*	80·9*	82· *	82·4*	80·9*	72·7*	67·5*
	Chánda			81·2*	89·6*	?	88·8*	80·2*	82·1*	82·2*	79·8*	74·3*	66·9*

In the table on the preceding page I give the mean temperature of each month (reduced to sea-level) of all the stations of India and Ceylon for which I have data. Those marked with an (*) are obtained from the mean of the minimum and 16h. readings. Those of the Ceylon stations and Madras marked (†), by the application of Dove's corrections for Travancore and Madras, according as the stations are on the west or east coast. The remaining stations, except Dholebagaun, are obtained from the means in the preceding table. For this last station, at which the diurnal range of temperature is small, I have taken as the diurnal mean that of the observations made at 8 A. M. noon, and 10 P. M. The temperatures have been reduced to sea-level by adding 1° Fahr. for every 350ft. of elevation.

This table shews the following changes in the distribution of temperature. In January and February, the highest temperatures prevailed on the Coromandel Coast, in Ceylon and at Port Blair. In January, indeed, Vizagapatam and Port Blair ranged above all the other stations, but this was probably an irregularity and was connected with the barometric depression already noticed. The lowest temperatures were those of N. W. India and Upper Assam; and the temperature difference between Roorkee and Port Blair in January amounted to nearly twenty degrees.

In March the temperature of Lower Bengal, Orissa and the Central Provinces rose to an equality with that of Ceylon and Port Blair, but in the N. W. Provinces, Northern Bengal, Cachar and Assam the rise was less rapid. The table shews a remarkable difference in this month between Jabalpúr and the other stations of the Central Provinces, but it is very probable there is some error in the Jabalpúr mean temperature for March, since it appears to be below even that of Roorkee, which place is six degrees further north, and situated under the Himalaya. It is however noticeable that the Jabalpúr S. L. temperature is considerably below that of all the stations to the south and west in all the dry months of the year (January to May and November and December) and the mean of these months is nearly seven degrees below that of Seoni only seventy miles to the south.*

In April and May, the S. L. temperature of the Central Provinces rose above that of any other region, but that of the elevated part of Bengal lying to the west of the Delta was but little lower. The S. L. isothermal of 90° in May in-

* This appears to be usual in the dry months. The same feature is observable in the above Table in November and December; and in Dr. Townshend's Report for the previous year, he observes "through the cold weather or from November to April, the mean temperature at Jabalpúr is considerably lower than at Nágpúr, the difference in January amounting to 7°. Moreover he especially mentions that at Nágpúr and Jabalpúr the thermometers have been similarly exposed under properly constructed sheds and the observations are therefore rigorously comparable (if it may be assumed that the instrumental errors are insignificant).

Jabalpúr, it may be observed, lies to the north, and Seoni and Nágpúr to the south, of the water-shed that stretches across India from the Gulf of Cambay to the Gangetic Delta, and is formed by a chain of table-lands averaging 2,000 and 3,000ft. elevation. But this will not account for the lower temperature of Jabalpúr as compared with Ságar and Hoshungabád. The true explanation is probably to be formed in the fact that Jabalpúr lies directly in the current of air that sweeps down from Upper India and is felt in Jabalpúr as a prevalent northerly wind. Ságar appears to be less regularly affected by this current and there is, as a rule, a rise of mean temperature from east to west in the dry months, the cause of which has yet to be made out.

cluded Monghyr, Berhampore, Hazareebaugh, Cuttack and all Central India and the Upper Provinces. That of 95° included Hazareebaugh and all the Central Provinces except Jabalpúr. The Coromandel Coast (Madras and Vizagapatam) in this month, had a mean temperature of about 90°, while Ceylon, Port Blair and Assam were but little above 80°. This, as far as regards Bengal and Central India, appears to be the usual distribution of temperature, as may be seen on referring to previous Reports for Bengal and the Central Provinces. The difference between Goalparah and Hazareebaugh in May 1870 amounted to 14·4°, while in the previous year it was as much as 16·6°.

In June, there was a great change in the distribution of temperature. That of the Central Provinces sank below 90°, except at Jabalpúr where it rose to 94·3°, the highest at any station in this month. Benares and Roorkee were the only other stations with a mean S. L. temperature above 90°. In Upper Assam the temperature continued to rise up to July and August, but the highest temperature was that of Roorkee, the station nearest to the Punjab. Throughout the summer months, the west coast and interior of Ceylon had a mean temperature below 80°, and that of the Arracan Coast and Eastern Bengal averaged 81° or 82°. The region bordering on the Punjab had the highest temperature, and next thereto, the N. W. Provinces and the east coast of the Peninsula. In September the temperature, like the barometric pressure, became nearly uniform over all the region under notice, but Ceylon remained the coolest portion of the area up to November. In December, as in January, the lowest temperatures were those of the N. W. Provinces and Upper Assam, the highest those of Ceylon, Port Blair and the Coromandel Coast.

As compared with the previous year the early months of 1870 were generally cooler in Orissa, and at Madras and Port Blair; warmer in Assam and Eastern Bengal. April, June, August and December were every where cooler, while October and November were warmer. The temperature of Madras and especially of Port Blair was considerably below that of 1869 throughout the year. Of these conclusions the table on the following page affords evidence:

As compared with the means of sixteen years the mean Calcutta temperature of the months shews the following variations: —

January	+0·5	July	+0·3
February	+1·8	August	—0·6
March	+0·9	September	+0·1
April	0·0	October	+1·2
May	+2·0	November	+1·4
June	—0·2	December	—1·
	Mean of year	+1·5	

Table VII.—Comparison of the mean temperature of each month of 1870—with that of the corresponding month in 1869.

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Year.
Madras	—2·0	—2·8	—2·5	+0·1	+0·6	—4·6	—4·3	—2·1	—1·3	—2·1	+1·7	—2·2	—1·6
Port Blair	—2·7	—4·1	—6·2	—5·7	—1·1	—3·3	—3·4	—4·6	—2·2	—2·8	—2·6	—2·9	—3·5
Akyab						—0·5	±·0	—0·6	+0·1	+0·7	+0·2	—1·0	
Chittagong	+1·0	+0·6	—0·7	—1·7	+0·5	—1·5	—0·2	—0·1	—1·1	±·0	+2·5	—1·4	—0·2
Cachar							—0·9	—0·1	·0	+0·7	+3·0	—1·0	
Dholebagaun	+1·5	·0	—1·5	—1·5	+1·5	—2·1	—1·0	·0	—0·8	·0	+4·3	—0·5	·0
Dacca	+0·6	+0·9	—0·2	—1·2	+0·7	—1·6	—1·2	—2·0	—0·7	+1·5	+2·8	—0·7	—0·1
Goalparah	+3·5				+3·9	—1·8	—2·0	—0·5	—0·8	+1·9	+3·7	—0·5	
Darjeeling	+1·3	+2·5	—1·0	—3·8	—1·3	—1·7	—1·2	—1·0	—0·1	+1·4	+1·5	—1·0	—0·4
Jessore	—2·8	—0·9	+0·2	—2·8	+0·2	—1·7	·0	—2·0	—0·2	+1·4	+4·1	—1·3	—0·5
Berhampore	+1·2	+0·3	+0·4	—3·1	+1·0	—1·5	—0·6	—2·2	+0·6	+1·1	+2·5	—1·4	—0·1
Calcutta	—1·8	+0·9	+0·6	—2·2	+0·9	—1·7	—0·1	—2·1	+0·1	+1·2	+2·5	—1·9	—0·3
Saugor Island	—1·9	+1·7	—0·1	—1·3	—0·7	—1·5	+0·4	—1·8	+0·1	+1·3	+2·6	—2·1	—0·3
Cuttack	—2·2	—2·6	—1·7	—2·0	+0·5	—0·2	+1·4	—0·7	—0·3	+1·3	+1·9	—4·0	—0·7
False Point	—2·7	—2·0	—0·5	—1·2	—0·4	—0·7	+1·1	—0·6	+0·2	+1·6	+2·9	—2·0	—0·4
Hazareebaugh	—0·5	+1·2	+0·9	—4·9	+1·8	—1·4	+0·6	+2·1	+0·3	+2·8	+2·6	—0·5	+0·4
Monghyr	+0·9	+1·6	—0·5	—3·1	+0·7	—1·1	—0·5	—1·4	—0·3	+1·6	+2·0	—1·0	—0·1
Patna	—1·1	—1·0	—0·9	—5·7	—1·3	—2·0	—0·2	—1·2	—0·1	+1·5	+2·2	—1·7	—1·0
Benares								—2·5	—0·8	+2·4	+1·7	—0·5	
Roorkee	+0·6	+2·4	+1·4	—1·9	—3·2	—4·6	—1·4	—2·3	—1·2	+2·6	+1·2	—0·7	—0·6

Temperature of Solar Radiation.

The registers of the maximum temperature of Solar radiation are given for seventeen stations, of which six were commenced in the course of the year. Seven only are complete, the remaining four having an hiatus of one or more months owing to the destruction of the instruments.

The instruments used, are in all cases, maximum thermometers (on Negretti and Zambra's patented principle) enclosed in a vacuum tube and with the thermometer bulb coated with lamp-black. The observations are recorded on all days whether clear or overcast.

Table VIII.—Maximum, Minimum, and Mean monthly readings of the exposed black-bulb Thermometer in Vacuo.

PORT BLAIR,

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	146·8	4th	157·0	12th	137·0
February	143·5	19th	167·0	11th	109·0
March	157·9	29th	165·0	2nd	150·0
April	163·0	10th	171·0	20th	159·0
May	147·3	1st-2nd	168·0	3rd	104·0
June	140·0	8th	174·0	18th	97·0
July	141·7	3rd	167·0	18th	97·0
August	131·5	8th	169·0	3rd	98·0
September	143·2	29th	163·0	24th	113·0
October	151·4	8th	170·0	19th	107·0
November	151·2	5th	163·0	1st	136·0
December	153·7	23rd	160·0	2nd	147·0

CUTTACK.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	160·6	8th	169·0	23rd	145·0
June	155·5	12th	171·0	20th	126·0
July	147·0	6th	161·0	30th	101·0
August	146·4	5th-6th	158·0	4th	128·0
September	148·8	5th	160·0	22nd	115·0
October	146·1	2nd	156·0	25th	119·0
November	137·6	8th-9th	155·0	4th	91·0
December	132·1	28th	138·0	14th	128·0

SAUGOR ISLAND.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	144·8	1st	152·0	29th	102·5
June	141·9	26th	164·0	24th	93·2
July	142·2	10th	158·4	24th	87·9
August	134·0	8th	150·0	25th	100·7
September					
October	140·5	13th	149·0	23rd	82·0
November	135·7	8th	152·8	4th	101·0
December	130·3	31st	134·2	15th	124·3

CHITTAGONG.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	151·4	18th	159·9	22nd	136·0
June	149·3	13th	157·2	14th	122·8
July	149·6	10th	166·8	8th	132·0
August	149·1	18th	163·1	27th	126·3
September	143·8	13th	160·1	23rd	94·0
October	145·5	11th	157·4	5th	83·0
November	144·2	14th	153·0	10th	134·6
December	137·7	16th	150·2	19th	130·5

CALCUTTA.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	116·3	19th	123·9	2nd	111·8
February	122·9	7th	127·0	20th	117·0
March	127·7	29th	134·0	18th	114·0
April	128·3	25th	133·0	11th	122·0
May	130·1	19th	135·8	27th	115·5
June	125·2	12th	133·6	16th	109·5
July	125·1	14th	132·0	8th	110·8
August	131·0	28th	147·6	13th	110·4
September	140·0	19th	149·4	3rd	119·5
October	144·8	12th	156·0	27th	117·0
November	137·3	1st	147·0	4th	111·0
December	130·2	31st	134·8	19th	126·7

JESSORE.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	131·6	19th	145·0	17th	97·0
February	140·6	25th	146·2	20th	137·5
March	149·2	28th	155·0	18th	129·2
April	149·8	3rd	155·0	11th	138·2
May	147·3	5th	155·0	27th	89·0
June	134·1	18th	153·0	21st	92·3
July	134·8	14th	151·0	12th	108·0
August	140·6	8th	153·0	2nd	112·0
September	143·5	16th	152·0	3rd	125·0
October	143·5	7th	153·0	24th	117·0
November	142·0	6th	152·0	3rd	120·2
December	134·9	26th	144·5	20th	131·0

DACCA.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	148·5	16th	159·0	27th	116·0
June	146·0	28th	154·0	20th	103·0
July	148·2	23rd	159·0	8th	125·0
August	144·6	27th	155·0	12th	110·0
September	148·7	27th	163 0	23rd	96·0
October	146 1	2nd	158·0	27th	131·0
November	137·6	2nd	147·4	27th	114·0
December	133·0	9th	142·3	19th	123·0

CACHAR.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	124·1	26th	135·0	17th	95·0
February	129·2	24th	138·0	5th	112·0
March	135·8	29th	148·0	31st	100·0
April	140·4	29th	158 0	13th	115·0
May	138·4	17th	147·0	31st	110·0
June	121·0	25th	141·0	8th	88·0
July	130·7	23rd	150·0	8th	100 0
August	135·7	14th	154·0	10th	90·0
September	129 3	2nd-3rd	146·0	24th	84·0
October	136·0	1st	148·0	23rd	102·0
November	131·1	6th	140·0	24th	121·0
December	124·7	26th	134·0	18th	104·0

HAZAREEBAUGH.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	132·7	3rd	147·0	22nd	111·0
February	133·1	21st	146·0	17th	121·0
March	140·6	31st	161·0	30th	100·0
April	147·9	25th	168·0	1st	75·0
May	161·0	14th	174·0	31st	151·0
June	152·6	9th	170·0	20th	102·0
July	148·9	23rd	162·0	24th	120·0
August	146·6	31st	159·0	26th	126·0
September	150·5	5th	163·0	24th	136·0
October	141·1	11th	158·0	29th	81·0
November	137·0	5th	150·0	27th	131·0
December	132·7	22nd	140·0	30th	124·0

BERHAMPORE.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	120·4	19th	132·0	17th	87·0
February	134·0	27th-28th	139·0	20th	129·0
March	145·2	30th	156·0	18th	136·0
April	152·3	4th	159·5	9th	137·5
May	155·3	12th-14th	162·0	22nd	141·0
June	147·0	23rd	162·0	20th	107·0
July					
August	142·7	9th	162·0	31st	107·0
September	145·3	20th	154·0	23rd	101·0
October	143·5	5th	155·0	24th	116·5
November	139·4	3rd	148·0	27th	130·0
December	130·3	1st	137·0	23rd	125·0

PATNA.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	123·2	18th	133·0	14th	118·0
February					
March	141·6	29th	156·0	17th	133·0
April	148·1	17th	157·0	2nd	135·0
May	155·3	28th	163·0	22nd	140·0
June	151·4	16th	163·0	27th	124·0
July	143·0	1st	156·0	26th	115·0
August	143·1	26th	154·0	8th	113·0
September	142·4	17th	153·0	24th	97·0
October	133·0	9th	152·0	29th	78·0
November	127·5	2nd	138·0	24th	120·0
December	119·3	31st	123·0	18th	113·0

MONGHYR.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	127·3	20th	135·0	1st	120·0
February	136·6	12th	145·0	19th	130·0
March	146·1	29th	156·0	18th	139·0
April	152·5	18th	161·0	11th	144·0
May	157·4	15th	169·0	26th	148·0
June	149·8	15th-16th	164·0	21st	126·0
July	147·1	5th	157·0	22nd	129·0
August	146·3	2nd	153·0	8th	135·0
September	147·6	28th	153·0	25th	128·0
October	141·3	15th	154·0	27th	110·0
November	137·0	2nd	146·0	22nd	130·0
December	130·8	30th	137·0	12th	128·0

DARJEELING.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	118·0	23rd	142·0	11th	80·0
June	123·5	1st	140·0	18th	79·7
July	121·8	28th	140·0	27th	102·0
August	126·3	27th	148·0	1st	101·0
September	127·9	14th	148·0	25th	98·0
October	120·1	4th	146·0	25th	70·0
November	112·0	1st	135·0	11th	75·0
December	106·4	15th	123·0	22nd	52·0

GOALPARAH.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February	135·6	26th	142·0	6th	127·0
March	147·3	31st	156·0	5th	138·0
April	150·0	30th	160·4	10th	117·7
May	148·9	29th	163·0	9th	102·8
June	141·9	17th	159·0	11th	105·3
July	141·5	29th	163·0	1st	86·0
August	151·1	25th	156·0	22nd	125·0
September	139·4	1st	159·6	9th	84·7
October	141·0	1st	158·8	26th	87·6
November	139·4	6th	148·0	18th	121·8
December	132·3	18th	136·7	21st	125·9

SHILLONG.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March	1349	29th	146·0	18th	95·0
April	137·7	1st	157·5	14th	100·0
May	136·3	16th	149·0	30th	101·0
June	129·4	15th	146·5	24th	88·5
July	135·2	27th	159·0	8th	85·0
August	141·1	16th	180·0	22nd	113·0
September	136·4	19th	158·0	29th	100·0
October	135·0	16th	148·5	5th	100·5
November	128·0	15th	148·5	20th	92·0
December	124·2	13th	130·5	31st	118·0

BENARES.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February	128·5	7th	133·0	13th	118·0
March	141·1	30th	154·0	18th	126·0
April	147·3	18th	156·0	3rd	130·0
May	150·7	14th	161·0	31st	113·0
June					
July					
August					
September					
October					
November					
December					

ROORKEE.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	114·5	23rd	120·0	22nd	108·0
February	121·9	28th	135·0	1st	100·0
March	125·6	23rd	140·0	24th	87·0
April	135·1	23rd	149·0	28th	110·0
May	144·4	28th-29th	151·0	1st	132·5
June	139·9	11th	155·0	28th	91·0
July	132·4	3rd	149·0	26th	111·5
August	136·0	8th	147·0	26th	92·0
September	131·6	24th	141·0	2nd	102·0
October	127·7	2nd	138·0	28th-29th	117·0
November	119·7	3rd	130·0	24th	109·0
December	111·3	1st	119·0	31st	93·0

Temperature of Grass (Nocturnal) Radiation.

Eight of the stations were furnished with grass radiation thermometers in the latter part of 1869 ; the remainder received them only in the earlier part of the last year. The instruments are minimum thermometers on Rutherford's principle, graduated on the stem, which is enclosed in a strong glass tube with the bulb (of white glass) projecting beyond the end. They are supported immediately above the ends of the grass on two forked sticks. The readings are recorded at 10 A. M.

Table IX.—Maximum, Minimum and Mean, monthly readings of Exposed Grass Radiation Thermometer.

CUTTACK.

	Mean.	Maximum.		Min.	
		Day.	°	Day.	°
January			?		
February					
March					
April					
May					
June	78·9	14th	92·02	2nd	73·0
July	77·4	27th	87·02	31st	74·0
August	76·9	30th	83·0	18th	74·0
September	73·6	10th	83·0	14th	66·0
October	68·0	1st	74·0	26th	58·0
November	68·1	23rd	79·0	27th	55·0
December	64·0	3rd	76·0	26th	49·0

SAUGOR ISLAND.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	80·7	26th	83·6	23rd	70·4
June	79·9	6th	84·0	3rd	74·3
July	79·2	29th	82·5	31st	75·5
August	77·5	12th	82·8	14th	74·2
September	77·3	23rd	82·0	3rd	72·9
October	75·3	6th	81·2	21st	71·7
November	64·1	9th	75·0	28th	54·2
December	47·5	31st	51·9	20th	42·2

CHITTAGONG.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	83·2	9th	93·3	23rd	75·2
June	78·3	1st	86·9	19th	73·0
July	78·7	21st	82·4	23rd	74·8
August	77·1	6th	82·1	24th	74·0
September	77·7	15th	83·1	23rd	72·3
October	76·9	24th	83·7	18th	71·4
November	74·2	7th	84·2	27th	71·8
December	71·9	9th	75·0	28th	67·8

JESSORE.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	43·2	21st	64·9	25th	35·0
February	45·2	5th	60·0	1st	39·0
March	57·1	16th	69.9	1st	31·0
April	65·0	30th	71·4	2nd	57·2
May	74·1	16th	78·0	26th	62·5
June	75·9	23rd	78·5	1st	71·0
July	77·2	8th	78·7	7th	74·7
August	76·0	22nd	78·0	4th	73·4
September	74·9	17th	77·0	27th	73·4
October	72·3	8th	76·0	31st	66·9
November	58·5	3rd	73·0	26th	43·0
December	42·6	31st	46·7	20th	39·5

DACCA.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	76·4	12th	86·0	22nd	69·2
June	77·1	30th	79·0	2nd	74·5
July	77·8	19th	80·0	8th	75·0
August	76·8	15th	79·0	26th	74·0
September	75·7	29th	77·9	7th	68·0
October	73·5	1st	77·5	20th	70·0
November	62·5	9th	78·5	27th	51·6
December	49·6	12th	54·0	23rd	46·7

CACHAR.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	47·6	21st	61·0	27th	41·0
February	51·4	27th	62·0	20th	41·0
March	56·3	19th	64·0	14th	48·0
April	63·7	17th	72·0	11th	53·0
May	72·2	12th	78·0	18th	65·0
June	74·5	29th	77·0	9th	62·0
July	76·3	19th	79·0	8th	74·0
August	76·2	30th	78·0	8th	74·0
September	75·1	21st-22nd	77·0	24th	73·0
October	73·0	3rd	77·0	26th	69·0
November	62·2	4th	76·0	27th	50·0
December	47·5	12th	54·0	20th	40·0

HAZAREEBAUGH.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	44·0	19th	600	13th	35·0
February	47·8	14th	54·0	18th	43·0
March	55·7	30th	64·0	4th	46·0
April	61·2	24th	68·0	10th	55·0
May	79·5	27th	74·0	13th	62·0
June	71·8	6th	80·0	15th	68·0
July	71·8	19th	74·0	25th-27th	70·0
August	69·9	6th	72·0	18th	68·0
September	68·0	25th	70·0	13th	64·0
October	61·9	1st-2nd	68·0	19th	51·0
November	45·6	3rd	60·0	26th	34·0
December	38·5	30th	50·0	5th	34·0

BERHAMPORE.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	46·0	20th	62·5	24th	37·0
February	48·0	12th	59·0	16th	41·5
March	55·3	31st	70·5	9th	47·0
April	66·1	2nd	72·5	5th	56·0
May	75·0	18th	80·0	28th	63·0
June	75·7	30th	79·0	5th	72·0
July	77·0	7th	80·0	22nd	75·5
August	76·5	4th	78·5	30th	74·0
September	75·9	17th	78·0	24th	74·0
October	72·6	1st-2nd	77·5	18th	67·0
November	60·8	5th	74·0	23rd	52·0
December	48·8	30th	53·5	5th	46·0

PATNA.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	45·1	19th	60·0	14th	33·0
February	49·5	12th	59·0	1st	42·0
March	55·6	31st	68·0	9th	49·0
April	60·9	30th	67·0	17th	53·0
May	67·4	27th	76·0	5th	60·0
June	75·3	25th-26th	78·0	8th	68·0
July	77·6	19th	81·0	8th	74·0
August	76·8	15th	79·0	25th	74·0
September	75·6	21st-22nd	78·0	10th	72·0
October	69·9	1st	78·0	18th	60·0
November	53·8	1st-2nd	70·0	30th	42·0
December	39·8	31st	48·0	5th	35·0

MONGHYR.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	42·5	20th	58·0	12th	35·0
February	47·4	14th	57·0	1st	39·0
March	56·6	31st	65·0	2nd	45·0
April	64·3	27th	72·0	6th	56·0
May					
June					
July					
August					
September					
October					
November	58·2	4th	69 0	25th	50·0
December	46·0	31st	50·0	20th	40·0

DARJEELING.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January					
February					
March					
April					
May	48·5	27th-29th	53·0	24th	42·0
June	52·5	29th	55·8	14th	49·8
July	55·6	13th-14th	57·8	1st	51·8
August	55·2	13th	57·8	2nd	51·8
September	53·3	6th	55·8	15th	48·8
October	46·9	8th-9th	51·8	1st	39·8
November	39·3	9th	47·8	28th-29th	33·8
December	31·1	11th-12th	33·8	25th-26th	27·8

GOALPARAH.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	49·6	21st	54·0	25th	42·0
February	53·5	10th	56·2	17th	50·0
March	57·5	29th	62·6	11th	51·5
April	64·6	22nd	71·1	11th	57·8
May	71·5	26th	76·0	6th	66·1
June	72.5	27th	76·0	1st	68·0
July	75·2	29th	77·0	3rd	73·0
August	73·5	10th	75·9	30th	70·0
September	72·7	15th	75·5	24th	70·5
October	71·7	3rd	75·1	26th	64·0
November	65·0	2nd	75·0	27th	52·2
December	53 6	10th	64·9	21st	40·7

SHILLONG.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	35 5	20th	46·0	13th	28·5
February	39·9	13th	48·0	16th	31·0
March	47·2	31st	60·0	9th	37·5
April	51·0	1st	59·0	11th	42·5
May	59·5	29th	69·5	23rd	56·0
June	61·2	27th	64·0	13th	58·0
July	62·5	5th-6th	65·0	30th	60·0
August	61·1	27th	68·5	3rd	57·0
September	58·0	28th	64.0	27th	52·5
October	55·3	6th	59·5	21st	49·5
November	43·5	5th	58·0	14th	32·0
December	34·2	2nd	40·5	30th	30·0

BENARES.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	32·3	19th	55·0	25th	21·0
February	40·0	12th	56·0	16th	25·0
March	49·1	31st	59·0	4th	38·0
April	55·8	30th	66·0	16th	45·0
May	63·3	31st	76·0	11th-12th	53·0
June	73·3	9th	82·0	3rd	68·0
July	73·2	24th	75·	8th	70·0
August	71·2	7th	73·0	18th	69·0
September	69·9	18th	72·0	27th	66·0
October	60·9	2nd	70·0	20th	49·0
November	43·8	2nd	65·0	26th	35·0
December	34·6	21st	45·0	12th-13th	30·0

ROORKEE.

	Mean.	Max.		Min.	
		Day.	°	Day.	°
January	35·1	17th	49·5	24th	31·0
February	42·0	7th	49·0	22nd	30·0
March	48·4	28th	60·0	10th	38·0
April	52·1	26th	60·0	16th	42·0
May	75·6	20th	80·0	10th	46·0
June	74·5	8th	85·0	29th-30th	69·0
July	70·9	14th	75·0	11th	66·0
August	67·3	2nd	73·0	16th	63·0
September	60·9	5th	67·0	29th	53·0
October	46·7	4th	58·0	29th	39·0
November	38·4	20th	43·0	24th	33·0
December	33·8	29th	44·0	13th	26·0

Humidity.

The humidity of the air is deduced from the readings of the dry and wet-bulb thermometers, by the use (except at Calcutta) of Guyot's tables, which have been computed with August's formula as modified by the introduction of Regnault's constants (see Report for 1868). The mean of the four readings is assumed as the mean of the day. That this assumption involves no error of importance in the case of Calcutta (the only station at which hourly readings have been recorded) was shewn in the Report for 1868 by a comparison of the means of the six-hourly and hourly readings. The greatest error amounted to 2 per cent of saturation; but it must be observed that this occurred in the driest month (March), and it is not improbable, therefore, that were a similar comparison instituted with observations made in a dry climate such as the N. W. Provinces or the Punjab, a greater difference might be found. The mean diurnal curve of humidity in every month of the year at Calcutta is an exact inversion of the temperature curve for the same month.

In the Calcutta registers the humidity is computed by the use of Glaisher's factors.

Table X.—Mean Humidity for 1870.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.
January			78	74	
February			81	76	
March			73	65	
April			69	67	
May			83	81	
June			84	83	
July			84	83	
August			86	86	
September			85	83	
October			83	81	
November			72	71	
December			71	68	

MADRAS.

	Mean.	4h.	10h.	16h.	22h.
January			67	64	
February			59	56	
March			62	63	
April			49	59	
May			37	53	
June			54	57	
July			61	56	
August			64	63	
September			68	67	
October			72	70	
November			72	69	
December			67	61	

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.
January	64	67	62	60	67
February	64	69	61	57	70
March	64	71	57	58	69
April	65	70	59	61	69
May	64	69	59	62	67
June	68	72	65	64	72
July	70	74	69	65	72
August	71	74	69	68	73
September	75	77	74	72	76
October	79	81	78	75	81
November	68	74	64	62	72
December	58	64	53	52	62

AKYAB.

	Mean.	4h.	10h.	16h.	22h.
January					
February			66	60	
March			63	58	
April			73	72	
May			82	80	
June	83	84	83	81	84
July	84	85	84	83	84
August	85	87	84	83	86
September	86	88	85	82	88
October	83	87	82	76	86
November	78	84	79	69	83
December	74	81	77	61	79

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	77	85	72	67	83
February	78	88	73	70	83
March	82	87	78	77	85
April	84	86	81	82	87
May	84	86	82	83	86
June	83	85	82	82	84
July	83	84	81	82	85
August	83	85	81	83	84
September	84	86	82	82	84
October	82	84	81	81	83
November	72	76	71	71	71
December	64	66	67	61	64

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.
January	64	76	60	47	74
February	61	78	60	35	71
March	60	76	56	38	71
April	63	79	60	44	71
May	65	79	63	46	73
June	74	83	69	64	80
July	80	86	78	75	83
August	82	85	79	78	85
September	84	89	82	78	88
October	82	88	79	75	86
November	78	87	75	65	87
December	70	85	66	48	83

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.
January	68	85	61	49	81
February	75	88	70	58	83
March	78	87	72	68	84
April	78	84	74	71	83
May	82	85	79	78	87
June	82	86	80	79	85
July	85	89	84	80	86
August	88	91	87	83	90
September	86	92	84	80	88
October	85	92	82	79	88
November	80	90	78	66	85
December	75	88	71	54	86

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.
January	67	91	54	50	71
February	69	88	58	52	80
March	70	91	54	52	84
April	77	91	66	64	86
May	78	90	67	67	88
June	85	92	78	79	90
July	85	92	79	79	91
August	87	94	83	80	92
September	87	94	81	79	94
October	86	95	81	75	92
November	78	92	71	64	84
December	74	87	70	56	82

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.
January	63	77	59	44	74
February	59	79	56	34	67
March	60	81	56	36	68
April	67	83	64	46	76
May	72	87	67	54	81
June	82	92	78	73	87
July	87	93	84	80	90
August	89	94	87	83	92
September	87	94	85	79	91
October	83	92	79	72	90
November	77	89	72	62	84
December	69	83	64	50	79

JESSORE.

	Mean.	4h.	10h.	16h.	22h.
January	66	89	48	42	83
February	56	83	44	28	71
March	53	78	41	27	66
April	62	80	54	42	71
May	72	87	63	58	79
June	82	92	76	74	87
July	87	94	80	83	92
August	88	94	83	82	92
September	86	95	79	80	92
October	87	95	80	79	93
November	82	96	90	67	94
December	73	93	60	50	90

DACCA.

	Mean.	4h.	10h.	16h.	22h.
January	67	78	60	50	77
February	65	89	58	40	73
March	66	91	57	39	79
April	73	89	66	56	82
May	84	99	76	70	90
June	91	99	85	83	96
July	87	93	83	82	91
August	87	93	85	81	91
September	86	93	82	80	90
October	83	94	76	73	90
November	74	88	63	61	84
December	75	90	65	59	86

CACHAR.

	Mean.	4h.	10h.	16h.	22h.
January	79	95	76	55	93
February	76	92	75	50	89
March	70	92	62	45	82
April	74	92	66	54	85
May	84	95	79	70	91
June	91	99	85	86	95
July	90	97	87	82	95
August	91	98	89	83	95
September	90	97	88	82	95
October	88	96	85	77	95
November	85	95	82	69	93
December	83	95	80	61	95

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.
January	48	58	43	39	54
February	34	45	29	22	41
March	36	48	28	24	44
April	38	50	32	28	41
May	29	42	22	19	33
June	66	75	57	59	73
July	83	90	78	78	88
August	82	90	76	77	87
September	82	89	76	75	88
October	71	80	64	63	78
November	53	63	45	45	61
December	45	56	37	34	52

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.
January	63	82	53	39	78
February	54	77	47	28	63
March	49	69	43	27	58
April	63	81	60	45	67
May	60	78	59	37	64
June	80	90	75	69	85
July	85	92	81	77	90
August	86	92	82	80	91
September	83	91	78	74	89
October	80	91	75	68	87
November	74	92	64	55	84
December	69	86	63	46	81

PATNA.

	Mean.	4h.	10h.	16h.	22h.
January	85	75	47	37	72
February	53	73	42	33	64
March	41	59	30	24	50
April	42	58	35	29	47
May	46	59	42	35	49
June	66	78	60	56	72
July	84	91	80	77	88
August	82	89	78	75	87
September	84	90	81	75	89
October	80	91	72	68	90
November	74	92	60	57	88
December	72	87	60	53	87

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.
January	56	71	55	38	63
February	49	64	47	29	55
March	39	52	39	21	44
April	43	62	39	26	44
May	48	71	43	28	52
June	73	85	67	62	78
July	85	94	82	76	89
August	86	91	85	81	88
September	83	90	79	75	88
October	79	87	75	69	84
November	70	82	68	53	77
December	64	79	60	45	71

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.
January	78	83	71	69	88
February	77	86	70	67	86
March	67	81	55	55	77
April	74	86	62	66	83
May	86	91	81	83	90
June	91	95	87	87	95
July	91	96	86	87	95
August	93	97	88	89	97
September	93	96	87	90	98
October	84	90	74	79	92
November	83	89	70	83	92
December	74	84	53	73	87

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.
January	71	91	65	54	76
February	64	82	65	45	63
March	55	80	51	34	55
April	61	77	56	44	66
May	79	90	75	68	82
June	90	96	89	83	92
July	89	94	87	84	91
August	86	94	83	79	90
September	88	96	87	81	90
October	86	94	81	79	90
November	83	93	82	72	85
December	79	96	81	62	76

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.
January	70	77	54	69	81
February	61	73	44	57	72
March	53	63	40	44	64
April	64	71	54	60	71
May	75	82	68	72	80
June	84	90	83	79	86
July	85	89	86	80	87
August	88	91	86	85	90
September	91	93	89	90	92
October	88	90	86	87	89
November	80	79	75	83	82
December			69	77	83

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January	63	89	46	34	84
February	56	80	36	31	79
March	45	68	31	22	61
April	40	63	30	17	51
May	32	50	23	14	42
June	58	71	49	43	68
July	84	94	74	75	93
August	81	92	71	72	90
September	83	94	73	72	92
October	76	94	65	55	90
November	74	97	55	47	96
December	69	91	56	38	90

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January	57	76	57	37	60
February	58	73	56	35	67
March	57	73	49	39	65
April	46	66	38	28	51
May	29	45	23	15	34
June	49	60	44	40	51
July	78	90	74	64	86
August	79	88	73	67	87
September	74	87	67	58	85
October	64	83	54	38	82
November	56	82	45	29	70
December	56	77	49	32	68

At nearly all the Bengal stations, the first five months of 1870 were less humid than the corresponding months of the preceding year and less than the same months of 1868. This difference was greatest at Calcutta, Jessore and Hazareebaugh. Patna presented the chief and almost only exception, but in 1869, this station had a lower humidity than any other as compared with 1868. The two stations of the Upper Provinces, Benares and Roorkee were on an average much the same as in 1869, but the month of April was more humid. The months of the rains were in most cases very similar in this respect to the corresponding months of the previous year. But October and November were almost every where damper, the setting in of the westerly or land winds being considerably later than usual. To this general rule however, Hazareebaugh offers an exception.

As compared with the average of sixteen years, Calcutta shews the following differences in 1870:—

January	— 8	July	+ 2
February	— 9	August	+ 3
March	— 7	September	+ 2
April	— 2	October	+ 5
May	— 1	November	+ 4
June	+ 1	December	— 3

SERENITY.

In the following tables are given the mean proportions of unclouded sky as estimated at the regular hours of observation. A clear unclouded sky is designated by 10, an overcast sky as 0. Calcutta and False Point do not give these observations. The first is not subject to the Meteorological Department, and the position of the observatory (surrounded by high buildings) is unfavorable for sky observations. At the second it has not been thought advisable to require them. Day observations only, have been recorded at Port Blair, Darjeeling and Roorkee; and at Akyab, Cuttack and Shillong for a part of the year:—

Table XI.—Mean Serenity of 1870.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.
January	5·77*		5·52	6·03	
February	4·89*		4·89	4·89	
March	7·90*		7·94	7·87	
April	5·97*		6·44	5·50	
May	3·42*		3·49	3·36	
June	3·40*		3·47	3·33	
July	3·27*		3·74	2·81	
August	2·89*		3·10	2·68	
September	3·55*		3·60	3·50	
October	4·27*		4·52	4·03	
November	5·93*		5·70	6·17	
December	7·16*		7·03	7·29	

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.
January	7·38	7·83	7·43	7·68	6·58
February	9·20	9·96	8·81	8·52	9·53
March	7·97	8·50	8·05	7·39	7·96
April	6·96	6·83	7·69	6·78	6·56
May	5·96	6·26	6·03	6·07	5·50
June	4·78	4·96	4·18	4·66	5·33
July	3·01	3·20	2·27	2·76	3·81
August	3·57	4·51	3·33	2·73	3·71
September	3·79	3·93	3·03	3·82	4·40
October	4·57	5·63	3·38	4·12	5·16
November	7·99	8·46	7·75	7·66	8·10
December	8·31	9·05	8·00	7·44	8·74

AKYAB.

	Mean.	4h.	10h.	16h.	22h.
January					
February					
March	8·24*		8·31	8·17	
April	5·76*		6·66	4·86	
May	3·14*		3·22	3·06	
June	3·38*		3·43	3·33	
July	4·04*		3·97	4·20	
August	4·10*		4·09	4·12	
September	2·48*		2·26	2·70	
October	5·24	5·63	4·75	4·99	5·59
November	6·79	6·90	6·96	6·16	7·14
December	7·95	8·29	7·57	7·10	8·84

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.
January	6·41*		6·66	6·16	
February	8·91*		9·21	8·61	
March	7·55*		6·97	8·14	
April	4·91	3·66	6·37	4·86	4·77
May	5·52	4·96	6·38	5·50	5·24
June	2·82	2·93	2·90	2·36	3·09
July	2·11	2·46	1·84	1·59	2·55
August	3·87	3·24	4·34	4·06	3·85
September	4·36	4·43	3·33	3·96	5·73
October	6·14	7·47	5·74	4·62	6·73
November	8·31	8·30	8·26	8·20	8·50
December	9·41	9 37	9·31	9·31	9·65

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.
January	7·59	7·95	7·12	6·87	8·43
February	9·01	8·93	8·89	8·78	9·43
March	6·86	7·77	6·55	5·98	7·13
April	6·00	5·70	6·00	5·60	6·70
May	3·10	3·26	2·91	2·56	3·67
June	2·48	2·10	2·16	1·73	3·94
July	2·47	1·88	2·55	1·86	3·59
August	2·45	2·33	1·12	1·86	4·51
September	4·11	3·59	3·27	4·03	5·56
October	5·45	6·18	4·54	3·94	7·13
November	7·54	7·86	6·56	7·57	8·17
December	9·02	9·20	8·72	8·47	9·69

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.
January	9·05	8·84	8·93	8·75	9·68
February	9·25	9·32	9·14	9·14	9·39
March	8·43	8·94	8·19	7·65	8·96
April	7·13	6·83	6·60	7·73	7·36
May	5·41	4·75	4·60	7·62	4·69
June	4·98	4·79	4·10	4·89	6·16
July	3·63	3·72	3·95	3·44	3·43
August	2·21	1·52	2·07	2·48	2·79
September	3·29	2·73	2·83	3·28	4·33
October	6·29	6·27	5·56	6·71	6·62
November	7·75	7·49	7·37	7·59	8·57
December	9·46	9·21	9·41	9·47	9·74

JESSORE.

	Mean.	4h.	10h.	16h.	22h.
January	8·23	8·02	8·14	8·23	8·55
February	9·38	9·54	9·25	9·25	9·50
March	8·15	8·46	8·45	7·17	8·54
April	7·73	7·59	8·24	7·70	7·39
May	6·37	6·11	6·94	6·82	6·12
June	4·30	4·06	4·10	3·90	5·16
July	3·68	3·64	2·57	2·74	5·77
August	3·60	3·21	3·26	4·02	3·93
September	5·55	6·06	5·17	4·86	6·13
October	6·15	6·43	5·56	5·53	7·08
November	8·24	8·00	8·50	7·73	8·73
December	9·66	9·46	9·65	9·65	9·90

DACCA.

	Mean.	4h.	10h.	16h.	22h.
January	8·42	8·18	8·43	8·14	8·94
February	8·79	8·86	8·54	8·89	8·89
March	8·00	8·28	8·18	6·99	8·56
April	6·37	5·99	6·27	6·36	6·87
May	4·65	5·30	3·83	4·00	5·47
June	3·45	3·66	3·06	2·47	4·63
July	1·98	1·35	1·57	2·79	2·21
August	1·82	1·10	1·00	2·08	3·10
September	3·77	3·90	2·43	3·18	5·57
October	6·05	6·33	4·30	5·77	7·80
November	8·12	8·33	8·10	7·83	8·23
December	9·18	8·95	9·49	9·03	9·25

CACHAR.

	Mean.	4h.	10h.	16h.	22h.
January	8·04	7·22	7·19	8·61	9·16
February	8·33	8·00	8·21	8·11	9·00
March	7·47	7.69	7·61	6·54	8·05
April	6·97	6·99	6·80	6·60	7·50
May	5·56	4·78	3·87	7·39	6·20
June	3·84	3·83	4·07	3·69	3·77
July	3·86	3·13	4·61	4·53	3·18
August	1·88	1·31	2·44	1·82	1·95
September	4·60	3·43	4·43	4·63	5·93
October	6·37	5·23	6·00	6·88	7·36
November	7·36	6·23	7·53	8·19	7·51
December	8·92	7·66	9·33	9·12	9·58

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.
January	6·16	6·26	6·00	6·00	6·37
February	8·82	9·35	9·14	8·07	8·71
March	5·89	5·82	6·25	4·93	6·57
April	6·33	6·70	7·46	4·93	6·23
May	8·84	8·79	9·13	8·41	9·02
June	2·59	2·66	3·86	1·97	1·86
July	1·18	0·84	2·28	0·81	0·79
August	4·21	2·89	4·23	5·24	4·49
September	2·78	2·59	3·53	2·26	2·73
October	5·77	6·24	6·36	4·86	5·63
November	8·64	8·80	8·47	8·30	8·99
December	8·33	8·33	8·37	8·10	8·53

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.
January	7·56	7·77	7·42	7·09	7·97
February	9·50	9·39	9·68	9·39	9·54
March	6·86	6·99	6·99	5·94	7·54
April	6·74	6·00	7·33	7·17	6·46
May	6·02	5·61	6·75	5·68	6·06
June	2·50	2·53	2·56	2·97	1·96
July	2·31	2·70	1·49	1·72	3·32
August	1·53	1·94	1·14	1·11	1·95
September	3·25	3·66	2·10	2·63	4·60
October	5·30	5·82	4·59	4·89	5·90
November	7·87	8·33	7·43	7·10	8·63
December	8·79	8·67	8·64	8·63	9·23

PATNA.

	Mean.	4h.	10h.	16h.	22h.
January	7·90	8·12	7·75	7·66	8·07
February	8·66	8·96	8·43	8·64	8·61
March	6·56	6·58	5·98	5·36	6·41
April	7·17	7·13	6·90	7·56	7·16
May	8·22	7·62	7·60	8·04	9·61
June	3·45	2·66	3·49	3·37	4·29
July	2·04	0·86	1·70	1·93	3·69
August	2·87	2·99	2·50	2·59	3·39
September	3·89	4·20	3·36	3·46	4·56
October	5·41	6·05	4·99	5·20	5·39
November	8·80	9·56	8·49	7·86	9·30
December	8·70	8·75	8·73	8·60	8.70

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.
January	8·31	8·13	7·77	8·48	8·87
February	8·99	8·89	9·46	8·86	8·75
March	7·60	7·58	7·56	6·95	8·31
April	7·92	7·67	7·89	7·86	8·27
May	8·77	8·85	8·05	8·98	9·22
June	4·40	4·41	4·51	3·94	4·73
July	3·53	3·77	2·19	3·11	5·06
August	3·29	2·45	3·36	3·88	3·48
September	4·46	4·46	3·33	4·90	5·17
October	6·24	6·81	5·64	6·18	6·34
November	9·19	9·80	8·56	8·70	9·70
December	9·00	9·04	8·86	8·81	9·29

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.
January	4·67*		6·00	3·35	
February	4·73*		5·11	4·36	
March	5·51*		5·79	5·24	
April	3·64*		3·73	3·56	
May	1·38*		1·63	1·13	
June	0·88*		1·06	0·70	
July	0·95*		1·20	0·70	
August	0·99*		1·19	0·80	
September	1·29*		1·76	0·82	
October	3·88*		4·38	3·38	
November	3·80*		4·80	2·80	
December	5·29*		6·47	4·11	

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.
January	7·12	6·03	7·87	7·59	7·00
February	8·24	7·79	7·79	8·25	9·14
March	7·59	8·23	7·19	6·26	8·68
April	5·50	4·69	4·83	6·10	6·40
May	3·19	1·42	3·09	4·84	3·43
June	1·31	0·53	0·83	2·49	1·40
July	2·29	1·61	2·24	2·97	2·34
August	2·4	2·17	2·77	3·07	3·36
September	3·20	2·49	2·37	3·79	4·16
October	3·67	2·86	3·85	4·24	3·73
November	6·29	6·19	5·37	6·43	7·17
December	6·37	4·07	5·96	6·81	8·64

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.
January	7·22	8·47	8·49	4·75	7·18
February	7·00	8·50	7·18	4·25	8·07
March	7·18	8·18	7·78	4·36	8·39
April	4·72	5·59	5·06	2·97	5·26
May	3·81	4·05	3·48	2·74	4·96
June	1·63	1·99	0·63	1·49	3·20
July	1·55	0·63	1·65	2·49	1·44
August	1·76	1·46	1·13	1·10	3·37
September	2·37	2·46	2·60	1·13	3·29
October	2·75*		3·94	1·56	
November	5·50		7·50	3·50	
December	7·15*		8·33	5·97	

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January	8·09	8·33	7·79	7·59	8·65
February	8·75	8·85	8·25	8·69	9·21
March	5·93	6·76	6·00	5·06	5·92
April	7·16	7·98	5·87	6·57	8·24
May	7·82	7·66	7·00	7·96	8·67
June	2·69	2·56	2·53	2·76	2·92
July	1·00	1·25	0·83	1·23	0·71
August	1·96	2·16	1·43	1·90	2·36
September	3·47	3·93	3·00	2·60	4·36
October	6·13	6·84	5·52	6·16	6·01
November	8·62	8·96	8·23	8·50	8·80
December	8·11	8·35	7·83	7·85	8·42

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January	8·58*		8·61	8·56	
February	8·12*		8·35	7·89	
March	5·85*		6·04	5·66	
April	7·88*		7·83	7·93	
May	9·68*		9·90	9·46	
June	5·68*		5·83	5·53	
July	2·39*		2·21	2·57	
August	3·24*		3·61	2·87	
September	5·28*		5·35	5·22	
October	9·14*		9·07	9·19	
November	8·78*		8·93	8·63	
December	7·58*		7·67	7·49	

Rain Fall.

Summaries of the rainfall observations at sixty-eight stations are given for the whole year, and those of fifty-five stations for a part of the year. The returns are more accurate than those given in previous reports, Symons' rain-gauges having been supplied to all the stations, and the registers of the stations enumerated below, for the earlier months, which were obtained with the old instruments, having been corrected by the result of a comparison of the readings with those of the new gauges during several months of the year. The following corrections, thus obtained, may be applied to the tables given in the reports for 1868 and 1869, excepting the table of average annual rainfall,* the figures of which are deduced from old registers which were in many cases obtained with instruments no longer in existence.

Stations.	Weeks of Rainfall.	Inches by old gauge.	Inches by new gauge.	Equivalent of 100 inches by old gauge.	Error of old gauge per 100 inches.
Balasore	21	42·01	47·09	112·09	— 12·09
Chyebassa	25	46·22	50·69	109·67	— 9·67
Raneegunge	14	25·46	26·33	103·42	— 3·42
Sooree	15	37·49	38·10	101·63	— 1·63
Ranchee	16	34·42	37·02	107·55	— 7·55
Jessore	26	71·42	57·38	80·34	+ 19·66
Berhampore	23	56·57	55·02	97·26	+ 2·74
Furreedpore	38	66·10	115·82	175·22	— 75·22
Burrisaul	28	71·78	66·80	93·06	+ 6·94
Buxar	25	46·72	48·25	103·27	— 3·27
Chuprah	12	32·55	32·30	99·23	+ 0·77
Rungpore	15	65·80	77·80	118·23	— 18·23
Tezpore	11	21·01	22·64	107·76	— 7·76
Seebsaugor	7	21·28	23·99	112·73	— 12·73
Sylhet	30	153·35	159·91	104·27	— 4·27
Cachar	21	74·37	74·76	100·52	— 0·52
Tipperah	20	53·39	61·42	115·04	— 15·04
Noakhally	8	40·60	45·72	112·61	— 12·61
Chittagong	15	63·10	66·05	104·67	— 4·67

The figures in the first column represent the number of weeks over which the comparison extended in each case ; omitting those in which the registers shew no rainfall. The errors of the old gauges at such stations as Balasore, Jessore, Rungpore, Seebsaugor, Tipperah, Noakally, and above all Furreedpore, shew how little dependence can be placed on many of the old records of rainfall, and the

* Report for 1869.—Table XIV.

table, as a whole, tends to confirm the opinion I had expressed in a discussion of these registers in the Journal of the Asiatic Society, viz., that as a rule the old gauges shew an amount in defect of the truth. Some other stations have sent in comparative registers, but they are either insufficient to shew the probable mean difference of the gauges or for other reasons appear to be untrustworthy. During the year now current an endeavour will be made to repeat these and to extend the comparison to other stations.

The following tables give the monthly rainfall at each station, and the number of days on which rain was measured in each month. The daily reading of the gauge is taken at 18h (6 P. M.) and the rainfall registered for each day includes, therefore, that which may have fallen during the last six hours of the previous day.

The Calcutta return of the number of days on which rain fell will be found to differ from that published in the *Calcutta Gazette* and the *Asiatic Society's Journal* by the Superintendent of the Meteorological Observatory. The difference is due to my observing the usual practice of recording as days of rainfall, those only on which there is a sufficient fall to be measurable, while the observatory Registers record as days of rain those also on which but a few drops fell, not amounting to a measurable quantity.

As in previous reports the stations are classified in circuits according to Geographical position, as follows : —

1. Central Circuit.—This comprises the main portion of the Gangetic Delta, as bounded by the Bhagirutti and Hooghly, the Pudma or Ganges, and the lower Megna.

2. South-Western Circuit; comprising Orissa and the Tributary Mehals of Cuttack.

3. Western Circuit; which includes Chota-Nagpore and all the elevated country to the westward of the Delta, as far north as Rajmehal and the borders of the Ganges valley.

4. North-Western Circuit; consisting of the Gangetic plain west of the Cosi River, with the plains of Behar and the North-Western Provinces.

5. Northern Circuit.—The plain north of the Ganges, between the Cosi River and Assam, and the Jamoona River; with the Hills of Sikkim.

6. North-Eastern Circuit; which consists of Assam, and extends southward to the water-shed of the Garrow, Khasi, Jynteah, and Naga Hills.

7. Eastern Circuit; formed by the drainage basin of the Barak and its tributaries, the low country east of the Jamoona, with Tipperah and Chittagong.

8. South-Eastern Circuit.—This includes only two stations : Akyab on the Arracan coast, and Port Blair in the Andamans.

I give as in last year's report the elevations of several of the stations as nearly as I can ascertain them.

Table XII. Rainfall in inches, in 1870.

Circuit.	STATIONS.	Elevation in feet.	Jany.	Febry.	March.	April.	May.	June.	July.	August.	Sept.	Octr.	Novr.	Decr.	Total.
	Madras ...	29	6·39	0·01	1·75	0·90	...	12·67	5·57	6·71	12·76	21·88	5·30	1·62	75·56
S. Western.	Pooree ...	15?	...	...	0·21	...	...	2·99	7·84	12·24	6·58	10·95	2·63	...	43·44
	False Point ...	18	...	...	0·50	0·90	0·60	6·55	12·00	10·05	10·45	12·60	10·40	...	64·05
	Cuttack ...	80	1·05	...	0·90	1·22	1·85	7·42	7·33	10·01	8·80	8·61	2·73	...	49·92
	Sambalpur ...	451	3·30	...	1·51	...	...	13·10	9·29	15·29	15·24	5·50	0·50	...	63·73
	Balasore ...	15?	1·32	...	0·89	2·84	1·03	9·51	8·44	9·38	11·46	7·69	2·21	...	54·77
	Bhuddruck ...		?	?	?	?	?	?	7·57	6·71	9·68	5·02	5·40	...	?
	Khurdah ...		?	?	?	?	?	?	10·36	12·46	10·58	9·57	3·88	...	?
	Midnapur ...	108	0·90	...	0·50	0·30	2·30	9·63	12·19	8·41	5·71	6·64	0·65	...	47·23
	Bancoorah ...		0·35	...	0·10	1·20	1·60	7·75	12·04	10·58	4·55	3·46	0·62	...	42·25
	Chyebassa ...		1·64	...	0·52	0·45	2·25	8·14	14·36	10·82	8·63	6·01	0·66	...	53·48
	Purulia ...		0·87	...	0·36	0·84	1·26	7·12	12·36	17·17	4·68	2·58	0·19	...	47·43
Western.	Gobindpur ...		?	?	?	?	?	12·02	11·61	13·97	6·11	5·64	?	?	?
	Palamow ...		?	?	?	?	?	?	14·38	20·06	7·90	3·46	0·10	...	?
	Burdwan ...	97	0·20	...	...	3·09	0·64	6·30	7·98	11·73	7·40	3·14	0·06	...	40·54
	Cutwa ...		?	?	?	?	?	?	?	20·40	4·10	3·19	0·03	...	?
	Culna ...		?	?	?	?	?	?	?	16·93	4·50	5·16	0·40	...	?
	Bood-Bood ...		?	?	?	?	?	?	?	13·15	5·23	4·18	0·20	...	?

Western.	Raneegunge	...	326	0·15	...	0·55	1·48	1·59	9·23	18·91	13·20	6·75	3·56	0·01	...		55·43
	Sooree	...	157	...	...	0·10	0·46	2·48	14·51	14·42	16·36	7·98	3·88	...	...		60·19
	Deoghur	...		0·40	...	·0·10	0·83	1·41	6·25	14·58	11·31	3·10	9·77	...	...		47·75
	Burhee	...	1,169	0·45	0·01	0·55	0·50	0·05	9·24	14·89	8·10	11·13	2·83	...	...		47·75
	Hazareebangh	...	2,010	0·10	0·18	0·92	0·73	...	8·78	17·11	14·45	10·98	5·92	...	...		59·17
	Pachamba	...		?	?	?	?	?	?	?	6·65	5·92	4·83	...	...		?
	Ranchee	...		0·83	0·04	0·24	0·56	0·52	13·37	11·17	15·25	9·87	2·63	...	...		54·53
	Sasseram	...		?	?	?	0·30	0·10	7·04	20·32	10·95	4·70	13·93	...	...		?
Central.	Saugor Island	...	6	...	...	0·14	1·62	5·92	3·66	12·65	16·03	14·49	12·42	2·58	...		69·51
	Contai	...	10	...	...	...	0·85	1·63	3·89	8·63	12·68	14·26	10·75	3·10	...		55·79
	Calcutta	...	18	0·77	...	0·03	4·03	0·92	16·09	10·90	12·92	9·01	3·93	1·66	...		60·26
	Howrah	...	18	1·42	...	...	2·95	1·49	10·46	10·99	13·76	7·69	3·58	2·04	...		54·38
	Alipore	...	16	?	?	?	?	?	12·72	10·63	14·59	9·23	4·33	1·67	...		?
	Barrackpore	...	20	?	?	?	?	?	6·40	2·42	1·98	2·79	0·85	4·33	...		?
	Dum-Dum	...	20	?	?	?	?	?	6·80	11·58	11·50	7·12	1·52	...	...		?
	Baraset	...	20	?	?	?	?	?	11·38	7·84	13·09	7·04	3·00	1·87	...		?
	Satkherah	...			?	?	?		15·50	2·32	7·33	5·83	5·20	2·42	...		?
	Busseerhaut	...		?	?	?	?	?	5·40	8·85	12·62	6·03	2·80	0·60	...		?
	Diamond Harbour	...		?	?	?	?	?	11·10	10·67	20·44	13·16	7·31	2·64	...		?
	Barripore	...		?	?	?	?	?	14·15	12·12	15·88	6·70	10·08	3·66	...		
	Hooghly	...	30	1·00	...	0·30	3·71	2·92	7·18	16·90	12·60	9·25	2·76	1·40	...		58·02

Table XII.—Rainfall in inches, in 1870.

Circuit.	Stations.	Elevation in feet.	Jany.	Feby.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
Central.—*Contd.*	Jessore ...	20	0·16	...	0·91	4·55	5·11	13·01	10·24	13·66	7·81	5·54	0·08	...	61·07
	Kishnaghur ...		0·16	...	0·02	3·15	3·13	8·29	10·27	9·98	4·81	3·73	0·09	...	43·63
	Ranaghat ...		?	...	...	4·51	2·60	10·11	7·13	13·63	7·07	2·65	1·18	...	48·88
	Bongong ...		0·30	...	0·30	4·01	2·41	9·08	7·22	14·96	5·58	4·91	0·31	...	49·08
	Meharpore ...		?	...	0·70	0·80	1·30	10·70	11·40	9·47	6·22	2·21	...	...	42·80
	Choadangah ...		?	...	0·20	2·70	4·90	9·20	11·95	10·60	7·60	3·00	...	...	50·15
	Kooshteah ...		...	...	0·18	2·85	4·10	12·19	9·62	10·94	10·88	4·27	0·10	...	55·13
	Berhampore ...	80	...	...	0·39	0·61	2·95	11·37	10·98	11·94	13·72	4·68	...	...	56·64
	Fureedpore ...		...	...	2·80	8·06	16·82	19·44	13·00	23·24	11·28	5·35	0·29	...	100·28
	Dowlatkhan ...		?	?	?	?	?	?	?	21·90?	16·60?	1·59?	0·72	...	?
	Burrisaul ...		...	...	1·04	3·19	9·26	11·91	12·32	13·49	8·78	5·63	1·18	...	66·80
	Perozepore ...		?	?	?	?	?	?	?	7·85	8·91	5·29	0·84	...	?
	Madaripore ...		?	?	?	?	?	?	?	10·50	11·62	5·73	0·03	...	?
	Bhaugulpore ...	146	0·50	...	...	0·15	0·92	8·06	11·36	7·90	6·75	4·70	...	...	40·34
	Mudheypoorah ...		?	?	?	?	1·69	7·35	11·64	10·10	11·88	17·77	...	...	?
	Banka ...		?	?	?	?	...	8·25	13·82	8·84	10·77	5·55	...	...	?
	Monghyr ...	160	0·16	...	0·07	0·78	...	5·33	8·81	38·59?	8·39	8·59	...	...	70·72?

North-Western.	Jamooie	...		?	?	?	?	2·13	7·44	12·36	12·79	13·89	4·63	...	...	?
	Begoosari	...		?	?	?	?	?	6·93	8·97	11·49	11·71	9·03	...	....	?
	Purneah	...		?	?	?	?	?	?	?	?	?	9·05	...	...	?
	Gya	...	400	0·54	...	0·28	0·27	0·42	4·53	11·56	10·56	4·06	6·93	...	...	39·15
	Sherghotty	...		?	?	?	?	?	?	10·35	10·93	3·39	6·79	...	...	?
	Nowadah	...		?	?	?	?	?	?	10·49	15·17	7·06	6·17	...	...	?
	Behar	...		?	?	0·09	0·34	0·35	5·52	8·94	13·71	6·33	7·47	...	...	?
	Patna	...	170	0·01	0·03	0·37	0·41	0·23	4·49	8·33	8·01	6·21	7·61	...	...	35·70
	Arungabad	...		?	?	?	?	?	?	?	8·13	9·95?	?	?	?	?
	Bhubhooah	...		?	?	?	?	1·00	6·09	18·78	9·75	8·12	11·69	...	...	?
	Barh	...		?	?	?	?	?	4·09	8·39	15·43	12·02	7·93	...	...	?
	Arrah	...	191	...	...	0·75	1·25	...	6·99	8·48	11·60	8·60	10·66	...	...	48·33
	Buxar	...		...	0·15	0·59	0·63	...	4·13	14·07	12·00	5·89	10·92	...	...	48·38
	Chuprah	...	182	....	...	...	0·69	0·20	10·11	10·52	7·71	5·14	8·59	...	...	42·96
	Sewan	...		?	?	?	?	0·67	12·13	12·16	7·87	8·27	13·88	...	...	?
	Chumparun	...		...	...	1·50	...	2·10	10·50	15·16	14·89	7·01	11·72	...	...	62·88
	Mozufferpore	...		?	?	1·00	0·20	1·60	10·60	24·00	16·00	13·90	14·00	...	...	?
	Dinapore	...		?	...	0·23	0·32	0·41	5·11	7·99	11·92	8·10	10·09	...	...	44·17?
	Benares	...	253	...	0·20	0·30	...	...	4·00	19·55	9·10	5·73	5·77	...	...	44·65
	Roorkee	...	905	...	1·05	1·90	0·93	...	4·94	14·60	12·96	6·40	0·71	...	...	43·49

Table XII.—Rainfall in inches, in 1870.

Circuit.	Stations.	Elevation in feet.	Jany.	Feby.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
Northern.	Rampore Beauleah ...	110	...	...	0·10	0·65	2·26	5·26	9·67	14·90	12·68	1·58	...	...	47·10
	Nattore ...		?	?	?	?	3·16	5·79	11·40	12·15	13·92	4·54	...	...	?
	Pubna ...		...	...	0·49	4·39	4·07	11·95	11·63	12·91	8·97	7·17	0·35	...	61·93
	Coomercolly ...		?	?	?	?	5·68	13·01	8·57	11·39	7·73	4·95	0·21	...	?
	Serajgunge ...		?	?	?	?	?	5·73	7·52	16·31	13·02	6·05	2·50	...	?
	Maldah ...	160	...	...	0·20	0·75	0·82	10·81	13·31	11·68	8·97	7·01	...	...	53·55
	Bograh ...		...	0·20	0 32	2·59	5·75	8·90	18·47	17·41	22·23	7·18	...	...	83·05
	Dinagepore ...		...	1·20	1·50	2·54	1·54	37·47	20·30	11·82	7·85	12·71	...	...	96·93
	Rungpore ...		...	...	...	...	12·53	35·68	33·20	9·50	11·00	11·35	...	...	113·26
	Julpigoree ...		?	?	?	?	10·43	42·22	42·47	21·49	26·58	19·68	...	...	?
	Falacotta ...		?	?	?	?	?	?	?	17·69	16·22	19·62	...	...	?
	Boda ...		?	?	?	?	?	?	27·10	14·06	11·11	14·19	...	...	?
	Titalya ...		?	?	?	?	?	?	46·85	19·24	26·01	16·06	...	...	?
	Buxa { Bhootan / Dooars }	1800	0·30	1·00	0·80	8·80	40·70	89·50	138·00	45·35	36·60	36·00	...	...	397·05
	Rungbee (Sikkim) ...	5000	...	1·20	3·70	6·55	10·75	27·43	62·66	19·21	26·62	17·58	0·70	0·65	177·05
	Darjeeling ...	6952	...	1·21	1·49	7·34	7·71	46·40	26·17	18·56	10·12	27·42	0·30	...	146·72
	Terai ...		?	?	?	?	?	?	?	28·86	18·03	8·24?	?	?	?

North-Eastern.	Goalparah	...	386	...	0·15	...	3·81	12·29	48·91	27·40	11·81	15·15	8·81	...	...	128·33
	Gowhatty	...		...	1·37	1·00	5·80	8·00	18·58	7·92	4·84	18·31	3·97	...	...	69·79
	Dhoobree	...		?	?	?	?	?	39·80	24·13	10·94	14·98	9·30	...	...	?
	Tura (Garo Hills)	...		?	?	?	?	?	?	37·17	16·10	36·21	15·38	0·33	...	?
	Shillong	...	4825	...	0·30	1·16	3·18	6·53	11·75	14·00	10·14	21·28	2·90	1·25	...	72·49
	Jaowai	...		?	?	?	?	?	?	38·85	15·61	43·45	6·12	1·28	...	?
	Nowgong	...		...	0·70	...	5·40	11·00	21·90	11·40	9·90	15·30	2·20	...	...	77·80
	Tezpore	...		...	1·45	1·23	5·39	17·02	25·19	8·99	9·62	17·74	2·97	0·13	...	89·73
	Dholebagaun	...		0·64	1·36	2·25	4·14	8·12	19·32	11·17	18·74	12·18	1·74	1·97	0·02	81·65
	Burpettah	...		?	?	?	?	?	?	23·50	7·85	20·06	8·41	0·73	...	?
	Seebsaugor	...		0·11	1·46	2·59	5·18	14·88	20·28	18·01	12·63	16·06	5·79	1·54	0·08	98·61
	Debrooghur	...		...	7·39	12.28	6·22	12·49	35·33	18·18	14·54	12·77	4·18	2·77	...	126·15
	Sudyah	...		?	?	?	?	?	?	22·15	18·80	13·65	3·97	3·50	0·08	?
	Samagoodting	...		0·25	0·70	2·75	3·75	4·75	7·75	11·00	16·50	10·00	1·50	...	...	58·95
Eastern.	Dacca	...	22	...	...	0·75	2·40	4·10	11·00	8·20	19·30	15·70	3·70	0·10	...	65·25
	Mymensing	...		...	0·05	0·16	1·32	6·38	16·18	16·25	14·42	18·11	9·03	...	...	81·90
	Jamalpore	...		?	?	?	?	?	?	14·54	15·21	25·70	8·54	...	...	?
	Atteah	...		?	?	?	?	?	?	?	22·61	13·83	11·00	...	...	?
	Kishoregunge	...		?	?	?	?	?	?	14·19	15·36	19·57	5·53	...	...	?
	Sylhet	...		...	0·83	0·86	4·54	12·16	39·70	22·47	57·15	26·43	14·09	0·15	...	161·38
	Cachar	...	73	...	0·90	1·36	4·13	8·62	24·55	22·10	20·30	15·53	9·48	0·29	...	107·26

Table XII.—Rainfall in inches, in 1870.

Circuits.	Stations.	Elevation in feet.	Jany.	Feby.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
Eastern.—*Contd.*	Aenakall Hylakandy...		0·01	0·82	2·84	3·79	11·28	22 14	18·59	23·30	14·81	2·31	0·88	...	100.77
	Tipperah ...		...	...	2·30	3·04	7·88	16·64	12·84	14·47	16·64	3·70	...	...	77·51
	Brahmanbariah ...		?	?	?	?	?	?	?	17.30	18·82	2·77	...	...	?
	Noakhally ...		...	...	1·12	2·47	5·07	15·82	195·0	30·21	21·59	10·49	0·35	...	106·62
	Chittagong ...	108	...	0·13	0·85	4·30	4·42	16·12	8.28	23·03	15·44	20·74	0·21	...	93.52
	Cox's Bazar ...		?	?	?	?	?	?	?	21·81	18·69	14·79	...	...	?
	Rangamatee Hill ... (Chittagong Hill Tracts)		...	1·00	2·40	4·60	7·00	17·10	10·60	22·03	13·14	15·48	1.00	...	94.35
S. East.	Akyab ...	10	...	...	1·15	2·84	19·60	22·12	46·59	33·09	35·45	15·38	2·10	...	178·32
	Port Blair ...	218	2·92	8·59	0·08	0·45	16·94	18·12	17·39	34·29	16·30	14·07	5·30	1·62	136·07

Table XIII.—Days on which Rain was Measured in 1870.

Circuits.	Stations.	Jany.	Febry.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
South Western.	Madras	5	1	1	1	0	11	15	10	13	14	13	5	89
	Pooree	0	0	1	0	0	8	16	14	15	17	5	0	76
	False Point	0	0	2	3	2	10	12	15	17	13	4	0	78
	Cuttack	2	0	2	4	4	13	15	18	21	15	3	0	97
	Sambalpore	4	0	2	0	0	13	17	19	18	7	1	0	81
	Balasore	2	0	4	6	6	9	15	14	16	7	4	0	83
	Bhuddruck	?	?	?	?	?	?	17	15	16	10	5	0	?
	Khoordah	?	?	?	?	?	?	22	17	20	14	6	0	?
Western.	Midnapore	2	0	1	2	6	11	17	15	10	6	4	0	74
	Bancoorah	2	0	1	5	4	16	19	18	8	8	1	0	82
	Chyebassa	5	0	3	2	7	18	25	23	16	10	4	0	113
	Purulia	6	0	5	7	7	17	25	20	17	11	2	0	117
	Gobindpore	?	?	?	?	?	20	29	21	16	9	?	?	?
	Palamow	?	?	?	?	?	?	28	22	16	8	1	0	?
	Burdwan	1	0	0	10	3	11	18	26	14	10	1	0	94
	Cutwa	?	?	?	?	?	?	?	24	14	11	1	0	?
	Culna	?	?	?	?	?	?	?	23	14	10	2	0	?
	Bood-Bood	?	?	?	?	?	?	?	19	9	6	1	0	?

Table XII.—Days on which Rain was measured in 1870.—*Continued.*

Circuit.	Stations.	Jany.	Febry.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
Western.—(*Contd.*	Raneegunge	2	0	3	5	5	16	24	24	14	8	1	0	102
	Sooree	0	0	1	3	3	14	19	20	12	8	0	0	80
	Deoghur	1	0	1	2	3	10	20	13	6	6	0	0	62
	Burhee	3	1	5	3	1	16	26	20	21	9	0	0	105
	Hazareebaugh	3	1	5	5	0	20	23	18	16	7	0	0	98
Central.	Pachamba	?	?	?	?	?	?	?	23	18	9	0	0	?
	Ranchee	?	?	2	2	1	19	23	18	14	10	0	0	89
	Sasseram	?	?	?	2	1	11	21	12	7	10	0	0	?
	Saugor Island	0	0	1	4	6	11	21	23	19	16	4	0	105
	Contai	0	0	0	2	3	5	11	15	17	11	3	0	67
	Calcutta	4	0	1	8	3	15	20	23	14	10	3	0	101
	Howrah	3	0	0	7	5	17	23	25	17	9	6	0	112
	Alipore	?	?	?	?	?	18	25	25	19	9	4	0	?
	Barrackpore	?	?	?	?	?	11	11	10	7	2	4	0	?
	Dum-Dum	?	?	?	?	?	8	16	14	12	4	0	0	?
	Baraset	?	?	?	?	?	13	16	22	16	8	2	0	?
	Satkherah	?	?	?	?	?	16	21	15	15	11	2	0	?
	Busseerhaut	?	?	?	?	?	6	17	13	9	10	3	0	?

Central.	Diamond Harbour ...	...	0	0	0	0	0	7	19	17	13	6	5	0	0
	Barripore ...	...	0	0	0	0	0	12	16	13	18	10	4	0	0
	Hooghly ...	...	3	0	2	4	2	15	22	19	15	6	1	0	89
	Jessore ...	...	2	0	4	7	7	19	25	21	14	9	1	0	109
	Kishnaghur ...	...	2	0	1	3	5	17	22	24	14	12	1	0	101
	Ranaghat ...	...	?	0	0	4	4	14	17	18	10	5	1	0	73
	Bongong ...	...	1	0	2	5	5	18	21	21	12	7	3	0	95
	Meharpore ...	...	?	0	3	3	2	16	17	21	14	6	0	0	82
	Choadangah ...	...	?	0	1	7	5	15	12	15	10	5	0	0	70
	Kooshteah ...	...	0	0	5	7	7	17	19	18	13	13	1	0	100
	Berhampore ...	...	0	0	1	4	3	12	23	23	16	10	0	0	92
	Furreedpore ...	...	0	0	2	8	10	13	19	19	14	7	1	0	93
	Dowlat Khan ...	...	?	?	?	?	?	?	22?	23?	22?	7?	2	0	?
	Burrisaul ...	...	0	0	3	5	9	17	23	23	16	8	3	0	107
	Perozepore ...	...	?	?	?	?	?	?	?	28	19	16	3	0	?
	Madaripore ...	...	?	?	?	?	?	?	?	25	16	12	1	0	?
N. Western.	Bhaugulpore ...	...	1	0	0	2	2	16	16	21	15	7	0	0	80
	Mudheypoorah ...	...	?	?	?	?	4	15	19	19	18	6	0	0	?
	Banka ...	...	?	?	?	?	0	11	26	19	15	7	0	0	?
	Monghyr ...	...	0	0	1	3	0	11	21	20	17	7	0	0	80
	Jamooie ...	...	?	?	?	?	1	12	12	16	13	7	0	0	?

Table XII.—Days on which Rain was Measured in 1870.

Circuit.	Stations.	Jan.	Febr.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
North Western.	Begoosari	?	?	?	?	?	12	23	12	13	9	0	0	?
	Purneah	?	?	?	?	?	?	?	?	?	8	0	0	?
	Gya	1	0	2	1	2	9	17	12	11	9	0	0	64
	Sherghotty	?	?	?	?	?	?	21	18	10	7	0	0	?
	Nowadah	?	?	?	?	?	?	16	14	9	8	0	0	?
	Behar	?	?	1	2	2	10	20	14	12	9	0	0	70
	Patna	1	1	4	3	3	13	20	17	13	8	0	0	83
	Arungabad	?	?	?	?	?	?	?	6	5?	?	?	0	?
	Bhubhooah	?	?	?	?	1	9	15	14	12	8	0	0	?
	Barh	?	?	?	?	?	15	19	15	12	11	0	0	?
	Arrah	0	0	4	4	0	12	21	19	15	12	0	0	87
	Buxar	0	2	4	4	0	10	24	21	19	9	0	0	93
	Chuprah	0	0	0	3	1	9	18	13	7	8	0	0	59
	Sewan	?	?	?	?	1	15	20	10	12	8	0	0	66?
	Chumparun	0	0	1	0	2	7	14	17	10	8	0	0	59
	Mozufferpore	?	?	3	1	2	12	18	19	11	9	0	0	75?
	Dinapore	?	?	4	3	1	10	16	13	11	9	0	0	?
	Benares	0	3	1	0	0	6	20	14	10	6	0	0	60
	Roorkee	0	4	4	4	0	7	15	16	6	1	0	0	57

Northern.	Rampore Beaulah	...	0	0	1	4	5	11	19	20	17	4	0	0	81
	Nattore	...	?	?	?	?	6	13	14	21	14	5	0	0	?
	Pubna	...	0	0	4	9	6	16	22	20	14	12	2	0	105
	Coomercolly	...	?	?	?	?	7	19	17	14	10	6	1	0	?
	Serajgunge	...	?	?	?	?	?	19	16	23	13	11	1	0	?
	Maldah	...	0	0	1	5	3	18	23	19	17	8	0	0	94
	Bograh	...	0	1	2	8	6	17	22	20	13	8	0	0	97
	Dinagepore	...	0	1	1	5	5	17	16	15	12	8	0	0	80
	Rungpore	...	0	?	0	0	3	12	16	3	4	4	0	0	42
	Julpigoorie	...	?	?	?	?	12	26	22	23	19	13	0	0	?
	Falacottah	...	?	?	?	?	?	?	20?	15	16	10	0	0	?
	Boda	...	?	?	?	?	?	?	25	21	3	10	0	0	?
	Titalya	...	?	?	?	?	?	?	28	24	19	11	0	0	?
	Buxa (Bhootan Doars)	...	1	3	2	9	17	28	27	24	19	18	0	0	148
	Rungbee (Sikkim)	...	0	3	5	9	15	27	30	18	17	11	2	1	138
	Darjeeling	...	0	3	6	14	22	27	30	29	24	15	1	0	171
	Terai	...	?	?	?	?	?	?	13?	26	20	7	?	?	66?
N. Eastern.	Goalparah	...	0	1	0	7	17	26	21	21	13	10	0	0	116
	Gowhatty	...	0	1	4	8	11	17	17	10	15	10	0	0	93
	Dhoobree	...	?	?	?	?	?	23	19	20	12	6	0	0	?
	Tura (Garo Hills)	...	?	?	?	?	?	?	28	30	18	14	3	0	?

Table XII.—Days on which Rain was Measured in 1870.

Circuit.	Stations.	Jan.	Febr.	March.	April.	May.	June.	July.	August.	Septr.	Octr.	Novr.	Decr.	Total.
North Eastner.—*Contd.*	Shillong	0	0	4	13	19	27	21	24	18	9	4	0	139
	Jaowai	?	?	?	?	?	?	30	29	27	12	5	0	?
	Nowgong	0	2	0	10	10	16	10	5	11	5	0	0	69
	Tezpore	0	4	4	7	19	25	18	13	19	10	2	0	121
	Dholebagaun	2	11	15	10	19	28	29	26	24	14	9	1	188
	Burpettah	?	?	?	?	?	?	24	16	18	10	2	0	?
	Seebsaugor	1	3	13	8	17	24	22	18	17	9	4	1	137
	Debrooghur	0	7	9	9	12	23	24	21	18	9	8	0	140
	Suddya	?	?	?	?	?	?	22	21	15	6	5	1	?
	Samoogoodting	1	2	7	5	10	11	14	17	12	2	0	0	81
	Dacca	0	0	1	4	8	13	13	23	15	8	1	0	86
	Mymensing	0	1	3	4	10	18	14	21	15	13	0	0	99
	Jamalpore	?	?	?	?	?	?	19	20	17	7	0	0	?
	Atteah	?	?	?	?	?	?	?	20	11	9	0	0	?
	Kishoregunge	?	?	?	?	?	?	22	29	20	10	0	0	?
	Sylhet	0	3	4	10	17	28	31	28	21	13	2	0	157
	Cachar	0	2	6	8	18	26	29	29	20	11	3	0	152
ERN.	Aenakhall Hylakandy ..	1	3	7	12	14	27	24	25	18	4	3	0	138

EAST-	Tipperah	0	0	6	6	10	20	26	24	14	9	0	0	115
	Brahmanbariah ...	?	?	?	?	?	?	?	23	16	8	0	0	?
	Noakhally	0	0	2	5	4	10	29	26	21	12	3	0	112
	Chittagong	0	1	3	4	9	17	23	24	21	6	1	0	109
	Cox's Bazar	?	?	?	?	?	?	?	30	23	7	0	0	?
	Rangamatee Hills (Chittagong Hill tracts)	0	1	3	8	9	20	20	21	18	13	1	0	114
SOUTH EASTERN.	Akyab	0	0	1	4	15	16	26	23	27	8	5	0	125
	Port Blair	8	13	1	2	31	30	31	31	30	22	18	5	217

Table XIV.

Stations.	Rain fall in 1870.	Average.	Excess in 1870.	Defect in 1870.
Pooree	43·44	54·83	...	11·39
Cuttack	49·92	53·27	...	3·35
Sambalpur	63·73	47·65	16·08	...
Balasore	54·77	68·45	...	13·68
Raipur	53·50	46·94	6·56	...
Nagpur	45·31	41·15	4·16	...
Jabalpur	77·95	50·85	27·10	...
Hoshangabad ...	45·29	48·13	...	2·84
Midnapore	47·23	64·85	...	17·62
Bancoorah	42·25	53·31	...	11·06
Purulia	47·43	40·96	6·47	...
Burdwan	40·54	61·41	...	20·87
Raneegunge	55·43	57·09	...	1·66
Sooree	60·19	48·98	11·21	...
Hazareebaugh	59·17	50·52	8·65	...
Ranchee	54·53	41·02	13·51	...
Calcutta	60·26	66·04	...	5·78
Jessore	61·07	64·91	...	3·84
Krishnaghur	43·63	60·04	...	16·41
Berhampore	56·64	53·13	3·51	...
Bhaugulpore	40·34	50·93	...	10·59
Monghyr	70·72?	38·99	31·73?	...
Gya	39·15	44·33	...	5·18
Patna	35·70	35·66	0·04	...
Arrah	48·33	49·16	...	0·83
Chuprah	42·96	34·85	8·11	...
Chumparun	62·88	40·02	22·86	...
Rampore Beauleah ...	47·10	63·32	...	16·22

Table XIV.—*Continued.*

Stations.	Rain fall in 1870.	Average.	Excess in 1870.	Defect in 1870.
Maldah	53·55	51·81	1·74	...
Bograh	83·05	91·07	...	8·02
Dinagepore	96·93	85·84	11·09	...
Rungpore	113·26	85·22	28·04	...
Rungbee, (Sikkim) ...	177·05	170·45	6·60	...
Darjeeling	146·72	125·59	21·13	...
Goalparah	128·33	94·44	33·89	...
Gowhatty	69·79	70·76	...	0·97
Shillong	72·49	85·88	...	13·39
Nowgong	77·80	79·50	...	1·70
Tezpore	89·73	76·08	13·65	...
Dholebagaun	81·65	...	...	...
Seebsaugor	98·61	90·45	8·16	...
Dacca	65·25	75·23	...	9·98
Mymensing	81·90	108·03	...	26·13
Sylhet	161·38	149·76	11·62	...
Cachar	107·26	123·39	...	16·13
Tipperah	77·51	95·86	...	18·35
Noakhally	106·62	98·33	8·29	...
Chittagong	93·52	108·47	...	14·95
Akyab	178·32	219·45	...	41·13

A chart constructed on the table of average rainfall given in the Report for 1869, shews the normal distribution of rainfall in Bengal to be somewhat as follows: On the Arrakan coast and in Eastern Bengal the average annual fall exceeds one hundred inches. This high fall prevails to the eastward of a line which, starting from the mouth of the Megna, runs northward to near the junction of the Soorma and Barak rivers; thence turning to the west, it follows the outline of the Garrow hills at a distance of about 50 miles from their foot. Again turning north, its further course about coincides with that of the Jaboona (Brahmaputra) river to near Goalparah; and finally turning

again to the eastward and falling a little to the south it follows approximately the main watershed of the Khasi hills, leaving Assam outside the area of more than 100 inches. The rainfall of the outer Himalaya exceeds 100 inches. The line of 80 inches follows a similar direction to the 100 inch line in the southern part of its course, but 40 or 50 miles to the west of it. It passes east of Dacca and then turning to the west and northwest, it runs up to the foot of the Himalaya enclosing Dinagepore and all the Terai that lies to the north of the Delta. Another portion of the same line in Assam would run round the central part of the province, passing between Goalparah and Gowhatty in Lower Assam, and enclosing a strip of the valley about 100 miles in length, in which the average rainfall appears to be below 80 inches. The line of 60 inches starts from the coast of Orissa, north of the Mahanuddy Delta. It includes Midnapore and the whole of the Gangetic Delta except the extreme northwest corner, and passing between Kishnaghur and Berhampore, runs northward till it approaches within 40 miles of the 80 inch line ; it then turns to the northwest and runs nearly parallel with this latter up to the foot of the hills. Over the Hazareebaugh plateau and the high lands south of the Ganges as well as throughout the Central Provinces, the average rainfall ranges between 40 and 50 inches per annum. Only in the Gangetic valley above Monghyr does it fall below 40 inches.

In 1870, the distribution of rainfall differed from this normal state of things in the following particulars. In the Central Provinces (including Sambalpur) and the hilly country to the west of the Gangetic Delta, the rainfall was higher than usual ; while the Orissa coast tract and the Ganges Delta had less than the average, more especially along a line passing through False Point, Midnapore and Burdwan. The stations in Behar registered about the usual quantity,—in some cases much more,—and the fall was also excessive on the outer Himalaya and over the adjoining plains at their foot. In Assam there appears to have been about the average quantity at Gowhatty and Nowgong, considerably less than the average at Shillong, and an excess at Tezpore and Seebsaugor ; while in Eastern Bengal and Arrakan the rains were generally somewhat deficient, except at Sylhet and Noakhally. Some of these local irregularities appear to be very anomalous.

The earlier months of the year were drier than usual in nearly all parts of Bengal. In June the rainfall was in excess of the average in Assam and Sylhet, and in the districts North of the Ganges ; but considerably less on the Arrakan coast, and somewhat less in Orissa and the Burdwan Division. September was an unusually wet month in Assam, Eastern Bengal, and Arrakan, and October in Behar and the northern districts. In Orissa the rains were deficient in every month up to October, in which month and November this province received rather more than usual. December was every where a very dry month.

WINDS.

In the following tables is given a summary of the observed wind directions in the same form as in previous reports, the number of observations being given without regard to the varying velocities. The readings of a Robinson's anemometer have been recorded at most of the stations, but I am not in a position to say that the instruments are so placed that their readings would be strictly comparable; or rather I am well aware they are not so, since I have found that in some instances they have been placed only 3 or 4 feet above the ground surface (instead of at the prescribed height of 20ft): and while the computation of the mean resultants of their indications would entail much additional labour, I believe that for our present purpose, the summation of the number of observations of each wind gives an equally useful datum.

A source of error observable in a portion of the tables, to which I must advert, is the omission at many of the stations of any recorded calm. I do not think that in most cases this omission much affects the general result, except perhaps at Cuttack; but the attention of the officers in charge of the stations in question has been drawn to the omission, and it is to be hoped that due regard will be had to their occurrence in future.

On visiting Saugor Island at the end of last year, I discovered that the wind vane dial had been erroneously set two points to the westward, owing apparently to the proximity of an iron lightning conductor, which had caused a deviation of the compass needle used in setting the dial. This error has been corrected in the table for the present year, but it affected all the observations summarised in previous reports, and accordingly a correction of 2 points ($22\frac{1}{2}$ degrees) must be made to the Saugor Island Wind tables for 1868 and 1869. The observations recorded as N will thus become N N W, those as N N E become North, and so on round the compass.

In Table XVI are given the resultants of each station for each month of the year, computed from the data in Table XV by Lambert's formula, and the number expressing prevalence being that percentage of all the observations, which expresses the excess in the direction of the resultants. This is the method adopted in Coffin's 'Winds of the northern hemisphere.'

Table XV.
Summary of observed wind directions in 1870.

PORT BLAIR.

Two Observations daily.

	Jan.	Febr.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	4	6	0	1	0	0	0	0	0	8	9	12
N E ...	42	33	52	37	0	0	0	0	1	1	32	05
East ...	4	4	0	2	0	0	0	0	1	2	2	0
S E ...	11	9	6	6	2	10	2	1	8	20	2	0
South ...	0	2	0	0	3	0	0	0	1	1	2	0
S W ...	0	1	0	8	52	50	60	61	49	29	13	0
West ...	0	0	0	2	1	0	0	0	0	1	0	0
N W ...	1	1	4	4	4	0	0	0	0	0	0	0
Variable ...												
Calm ...												

MADRAS.

Two Observations daily.

	Jan.	Febr.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
North ...	3	6	0	0	0	1	0	0	1	2	3	17
N by E ...	5	3	2	0	0	0	0	0	0	0	3	1
N N E ...	14	7	2	0	0	0	0	1	0	0	9	9
N E by N ...	3	0	0	1	0	0	0	0	0	0	4	1
N E ...	7	12	1	0	0	0	0	1	0	1	8	1
N E by E ...	1	3	1	0	0	0	0	0	0	1	1	0
E N E ...	7	2	7	1	0	0	1	2	0	1	3	1
E by N ...	0	5	4	0	1	1	0	1	1	1	2	0
East ...	2	5	9	4	1	4	1	4	1	3	2	0
E by S ...	1	0	3	0	0	0	0	3	2	2	0	0
E S E ...	2	1	8	2	2	2	1	1	0	2	2	1
S E by E ...	0	0	2	2	2	1	0	0	2	3	0	0
S E ...	0	0	10	11	6	4	0	3	3	2	2	0
S E by S ...	0	0	1	11	12	7	0	0	2	1	0	0
S S E ...	0	0	3	6	12	8	1	1	1	5	0	0
S by E ...	1	0	3	5	0	1	3	1	2	0	0	0
South ...	2	2	3	8	2	2	3	2	0	5	2	0
S by W ...	1	0	1	0	0	1	0	0	2	2	0	0
S S W ...	0	0	0	3	2	1	1	1	4	4	0	0
S W by S ...	0	0	1	2	3	0	0	0	1	0	0	0
S W ...	0	1	0	1	3	7	14	6	2	4	2	1
S W by W ...	0	0	0	0	3	3	4	2	4	2	2	0
W S W ...	0	0	0	0	2	4	5	5	3	3	2	0
W by S ...	0	0	0	0	0	0	8	5	4	2	1	0
West ...	0	0	0	1	4	5	13	11	8	3	0	0
W by N ...	0	0	0	0	1	4	2	0	2	0	0	0
W N W ...	0	0	0	0	2	4	3	7	7	2	0	0
N W by W ...	0	0	0	0	0	1	0	1	1	0	0	0
N W ...	2	0	0	1	2	1	1	3	3	2	0	5
N W by N ..	3	0	0	0	0	1	1	1	1	1	1	6
N N W ...	6	7	1	1	2	1	0	0	1	7	9	8
N by W ...	2	2	0	0	0	0	0	0	2	1	2	11
Variable ...	0	0	0	0	0	0	0	0	0	0	0	0
Calm ...	0	0	0	0	0	1	0	0	0	0	0	0

VIZAGAPATAM.

Four Observations daily.

	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
North ...	9	1	1	0	0	2	2	2	1	2	6	5
N E ...	13	6	1	2	0	0	0	3	7	5	32	41
East ...	71	31	6	1	9	5	2	13	22	20	39	56
S E ...	17	28	28	39	22	21	7	12	11	22	11	6
South ...	5	25	26	17	28	29	17	16	13	15	10	1
S W ...	2	7	14	16	19	16	27	13	14	9	5	4
West ...	2	11	45	42	45	45	67	60	40	43	6	2
N W ...	5	3	3	3	1	2	2	5	12	8	11	9
Variable ...												
Calm ...												

AKYAB.

April 1st to May 15th 2 Observations, February and Last Half of June 3 Observations, other Months 4 Observations daily.

	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North ...		1	0	0	0	0	0	3	0	5	26	32
N N E ...		2	4	0	0	3	0	0	1	7	8	10
N E ...		35	34	13	0	2	0	0	8	7	5	15
E N E ...		0	0	0	0	0	0	0	0	12	4	3
East ...		0	0	0	0	0	1	4	19	30	16	5
E S E ...		0	0	0	0	0	1	0	0	1	0	0
S E ...		0	0	0	3	0	50	46	26	7	4	1
S S E ...		0	0	8	1	27	17	4	1	0	5	0
South ...		0	0	0	3	0	42	36	21	6	5	0
S S W ...		0	0	2	6	0	0	1	6	2	0	0
S W ...		0	0	0	10	4	10	28	18	22	10	3
W S W ...		0	0	0	3	1	0	0	1	3	3	0
West ...		0	0	1	0	0	0	1	12	13	11	23
W N W ...		0	0	0	1	1	0	0	1	1	6	2
N W ...		20	39	23	21	16	3	1	6	8	14	27
N N W ...		7	1	6	8	2	0	0	0	0	2	3
Variable ...		0	0	0	0	0	0	0	0	0	0	0
Calm ...		19	46	0	10	14	0	0	0	0	0	0

FALSE POINT.

Four Observations daily.

	Jan.	Febr.	March	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
North	11	6	6	7	0	0	0	3	0	6	22	28
N N E	1	1	1	0	0	0	0	5	1	1	15	9
N E	78	11	2	4	1	2	0	5	17	27	20	31
E N E	0	0	2	2	0	0	0	0	4	1	2	5
East	10	12	0	0	17	0	0	1	5	7	1	6
E S E	3	1	0	0	0	0	0	1	9	1	1	1
S E	5	10	6	2	1	2	0	6	12	7	5	2
S S E	0	10	3	7	3	2	12	2	4	7	3	0
South	4	7	6	15	4	8	11	7	7	4	3	1
S S W	0	0	6	2	5	9	0	2	3	3	4	0
S W	0	16	46	66	87	64	36	39	39	19	12	1
W S W	0	3	2	5	1	19	3	3	0	1	0	0
West	3	14	29	4	1	5	25	17	6	12	7	5
W N W	0	1	2	3	1	2	30	15	3	5	0	0
N W	6	16	9	3	1	1	2	11	2	1	8	20
N N W	0	0	0	0	0	0	0	1	0	0	5	5
Variable	0	1	1	0	2	6	5	2	3	2	10	1
Calm	3	3	1	0	0	0	0	4	5	18	2	9

CUTTACK.

From January to 15th April 2 Observations, and from 16th April 4 Observations daily.

	Jan.	Febr.	March	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
North	6	5	3	2	3	0	0	4	3	2	5	7
N by E	3	0	1	0	0	1	0	0	0	0	0	0
N N E	0	0	0	0	0	0	1	1	4	12	15	20
N E	14	3	1	3	5	0	0	3	17	22	14	6
E N E	0	0	0	0	0	0	0	1	11	10	12	2
E by N	4	3	0	1	0	0	0	0	0	0	0	0
East	9	5	2	7	6	5	1	0	15	5	2	3
E by S	1	2	1	1	0	2	1	0	0	0	0	0
E S E	0	0	0	0	0	0	1	0	5	6	1	8
S E	2	3	2	3	10	13	10	4	3	15	1	0
S S E	0	0	0	1	1	0	1	17	18	15	3	1
S by E	0	0	5	19	27	21	12	0	0	0	0	0
South	2	1	9	25	59	42	25	18	25	11	4	1
S by W	0	0	2	0	6	4	7	0	0	0	0	0
S S W	0	0	0	0	0	1	0	13	5	3	0	0
S W	1	1	3	13	5	16	35	13	6	8	2	3
W S W	0	0	0	0	0	0	1	8	2	1	9	7
W by S	0	2	5	1	0	3	1	0	0	0	0	0
West	4	13	12	5	2	7	19	19	2	3	13	9
W by N	3	5	2	1	0	2	5	0	0	0	0	0
W N W	0	0	0	0	0	0	0	4	1	2	11	19
N W	11	12	11	5	0	3	3	17	3	7	20	23
N N W	0	0	0	0	0	0	0	2	0	2	8	10
N by W	2	1	3	3	0	0	1	0	0	0	0	0

SAUGOR ISLAND.

Four Observations daily.

	Jan.	Febr.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	6	9	5	3	1	0	2	3	0	5	18	20
N N E ...	25	10	2	0	0	0	1	1	0	5	20	40
N E ...	47	8	3	2	1	1	0	5	2	8	20	31
E N E ...	17	0	0	2	0	2	0	3	1	9	11	9
East ..	6	3	0	5	1	2	1	4	3	8	6	2
E S E ...	1	0	0	4	0	1	0	3	2	3	1	0
S E ...	0	0	1	1	1	2	1	2	8	5	6	0
S S E ...	0	0	0	1	0	1	2	2	7	4	1	0
South ...	1	0	4	8	12	2	11	1	21	9	4	0
S S W ...	1	2	7	21	27	27	12	9	23	10	3	0
S W ...	4	27	42	34	48	36	44	30	26	29	8	1
W S W ...	0	19	20	29	27	28	17	23	19	14	7	6
West ...	5	15	21	6	2	15	20	30	4	6	9	4
W N W ...	2	6	7	2	0	0	4	5	0	1	0	2
N W ..	7	11	9	1	1	1	8	2	2	1	4	1
N N W ...	2	2	3	1	3	2	1	1	2	7	2	8
Variable ...	0	0	0	0	0	0	0	0	0	0	0	0
Calm ...	0	0	0	0	0	0	0	0	0	0	0	0

CHITTAGONG.

Four Observations daily.

	Jan.	Febr.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	31	10	12	7	0	0	0	1	5	9	7	14
N N E ..	11	8	1	5	1	0	0	2	4	5	4	3
N E ...	1	2	3	1	0	3	0	5	3	5	14	6
E N E ...	0	0	1	2	4	2	1	3	3	8	5	6
East ...	0	3	6	6	10	14	23	19	16	10	9	8
E S E ...	0	1	2	8	25	29	40	20	18	12	1	6
S E ...	0	1	2	7	10	23	29	16	12	6	3	0
S S E ...	0	2	3	7	8	8	12	8	8	10	6	4
South ...	0	3	2	6	17	14	11	17	12	9	1	1
S S W ...	0	0	8	5	4	7	1	6	8	2	0	0
S W ...	0	3	16	16	27	15	6	9	10	9	4	1
W S W ...	0	10	18	17	12	3	0	4	7	11	6	1
West ...	18	10	13	7	4	2	1	10	8	16	15	21
W N W ...	10	10	5	7	1	0	0	3	1	5	9	13
N W ...	6	13	18	7	0	0	0	0	2	5	22	14
N N W ...	47	36	14	4	1	0	0	1	3	2	14	26
Variable ...	0	0	0	7	0	0	0	0	0	0	0	0
Calm ...	0	0	0	0	0	0	0	0	0	0	0	0

CALCUTTA.

Four Observations daily.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	9	1	1	2	0	0	0	1	0	1	5	8
N 15° E ...	8	1	0	2	0	0	1	0	0	1	5	17
N 30° E ...	13	2	0	1	0	0	0	2	0	1	6	9
N E ...	9	0	1	2	1	1	2	2	0	8	7	1
N 60° E ...	0	0	1	2	0	1	0	2	2	7	6	0
N 75° E ...	0	0	0	3	2	2	1	1	4	2	3	0
East ...	2	0	2	6	3	3	0	5	1	4	1	0
S 75° E ...	0	0	0	2	3	2	0	3	1	3	2	0
S 60° E ...	0	0	0	5	1	2	3	5	11	7	3	0
S E ...	1	1	0	1	6	2	12	6	13	8	1	0
S 30° E ...	1	0	1	4	13	4	11	11	20	20	3	0
S 15° E ...	2	4	2	9	8	16	18	12	19	9	1	0
South ...	0	8	8	17	33	38	31	14	22	15	3	0
S 15° W ...	0	5	8	19	20	13	28	10	7	12	5	0
S 30° W ...	0	15	31	20	29	28	11	30	14	10	9	0
S W ...	11	21	17	8	3	5	4	9	5	3	12	0
S 60° W ...	4	14	12	6	2	2	1	7	0	3	3	2
S 75° W ...	0	4	8	1	0	0	1	0	0	1	3	4
West ...	4	12	12	4	0	0	0	2	0	1	3	16
N 75° W ...	9	5	8	2	0	1	0	1	1	0	5	21
N 60° W ...	23	10	4	1	0	0	0	0	0	1	8	32
N W ...	6	4	7	2	0	0	0	0	0	3	10	6
N 30° W ...	11	3	1	1	0	0	0	0	0	2	1	3
N 15° W ...	11	0	0	0	0	0	0	1	0	2	15	5
Variable ...	0	0	0	0	0	0	0	0	0	0	0	0
Calm ...	0	0	0	0	0	0	0	0	0	0	0	0

JESSORE.

Four Observations daily.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	61	17	10	2	1	0	0	1	0	18	46	78
N N E ...	5	0	0	1	1	0	0	0	0	12	10	11
N E ...	24	8	7	8	7	2	1	3	5	20	26	4
E N E ...	1	2	0	1	0	0	0	0	1	3	4	1
East ...	2	4	11	10	0	4	0	3	8	11	9	0
E S E ...	0	0	1	0	0	3	4	4	4	2	1	0
S E ...	1	2	15	27	48	16	27	47	46	28	0	0
S S E ...	0	0	0	0	1	2	10	1	1	4	0	1
South ...	0	6	6	33	35	67	59	30	30	16	0	0
S S W ...	0	1	0	5	11	10	17	5	10	1	0	0
S W ...	0	9	14	11	13	11	2	10	11	0	3	0
W S W ...	0	0	1	2	1	1	3	1	0	1	0	1
West ...	0	17	19	12	3	1	0	16	4	3	4	2
W N W ...	1	8	5	1	1	0	1	1	0	0	2	2
N W ...	19	34	31	3	2	2	0	1	0	3	10	9
N N W ...	10	4	4	4	0	1	0	1	0	2	5	15
Variable ...	0	0	0	0	0	0	0	0	0	0	0	0
Calm ...	0	0	0	0	0	0	0	0	0	0	0	0

DACCA.

Four Observations daily.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	11	2	0	10	1	0	0	0	3	5	15	30
N N E	6	2	4	3	1	0	0	0	0	5	9	6
N E	8	2	1	3	1	0	0	4	0	5	8	5
E N E	0	0	1	3	4	1	0	1	0	1	1	0
East	0	0	0	5	3	1	1	0	0	9	6	1
E S E	0	2	3	3	3	2	3	1	11	7	1	1
S E	0	5	11	8	11	15	32	30	27	9	3	2
S S E	0	8	14	28	44	32	39	23	12	15	3	0
South	1	7	15	10	35	42	38	26	33	21	3	4
S S W	2	14	22	14	18	24	9	10	11	13	6	0
S W	0	9	16	8	1	1	0	13	0	5	8	5
W S W	2	5	4	0	0	0	0	1	0	1	1	0
West	11	10	10	4	0	0	0	4	2	0	9	6
W N W	41	25	11	2	0	1	0	2	4	1	7	12
N W	28	11	9	8	0	0	0	1	2	9	23	29
N N W	8	2	1	8	0	0	0	0	0	1	1	3
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	6	8	2	0	1	0	0	6	10	13	13	19

CACHAR.

Four Observations daily.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	0	0	0	5	11	11	19	2	3	4	3	1
N N E	0	1	0	4	2	2	3	5	8	13	28	1
N E	1	1	0	13	9	7	5	10	2	5	1	0
E N E	7	5	4	2	8	11	5	7	4	8	0	1
East	2	2	15	19	15	20	15	19	20	25	17	25
E S E	3	11	14	12	10	2	7	2	9	17	16	11
S E	12	6	3	6	4	5	7	7	6	9	12	11
S S E	17	5	7	4	1	5	1	3	5	3	9	16
South	17	11	9	7	6	13	9	8	11	4	7	39
S S W	19	21	13	11	1	10	6	17	5	2	3	3
S W	18	12	10	11	4	5	9	2	2	2	0	5
W S W	22	20	28	3	7	2	6	14	3	1	5	5
West	3	4	9	12	6	12	6	13	16	10	14	4
W N W	2	6	11	7	18	7	7	7	13	7	4	0
N W	1	2	0	2	11	3	10	5	6	5	0	0
N N W	0	5	0	2	3	5	9	2	7	8	1	1
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	0	0	0	0	0	0	0	0	0	0	0	0

HAZAREEBAUGH.

Four Observations daily.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	1	3	3	6	8	1	1	6	9	15	10	3
N by E ...	0	1	1	0	0	0	0	0	0	0	0	0
N N E ...	1	2	0	1	4	3	3	3	2	8	2	0
N E by N ...	0	0	0	0	0	0	0	3	0	0	0	0
N E ...	1	0	0	3	2	4	5	0	4	6	1	0
E N E ...	1	1	0	4	3	2	3	4	5	2	2	0
East ...	1	1	0	6	1	3	8	7	12	6	0	0
E S E ...	1	0	0	4	3	2	6	2	7	3	0	0
S E ...	2	4	1	4	7	6	8	8	17	7	0	0
S E by S ...	1	0	0	0	0	0	0	0	0	0	0	0
S S E ...	2	3	2	9	7	10	13	7	20	4	1	0
S by E ...	0	1	0	0	0	0	0	0	0	0	0	0
South ...	4	3	2	10	12	24	32	15	12	16	0	0
S by W ...	1	0	2	3	0	0	0	0	0	0	0	0
S S W ...	2	4	7	14	7	16	11	1	6	7	0	1
S W by S ...	0	1	2	0	0	0	0	0	0	0	0	0
S W ...	4	11	18	7	6	10	4	6	7	7	4	2
S W by W ...	0	1	0	0	0	0	0	0	0	0	0	0
W S W. ...	5	6	10	4	5	8	6	8	2	3	3	2
W by S ...	4	1	2	0	0	0	0	0	0	0	0	0
West ...	19	21	20	10	10	11	7	18	2	7	15	22
W by N ...	4	1	5	0	0	0	0	0	0	0	0	0
W N W ...	20	17	12	11	18	11	4	25	8	17	27	42
N W by W ...	12	5	7	2	0	0	0	0	0	0	0	0
N W ...	28	14	12	14	19	6	10	6	4	11	25	37
N W by N ...	5	2	2	0	0	0	0	0	0	0	0	0
N N W ...	5	8	12	8	12	3	3	5	3	5	30	15
N by W ...	0	0	4	0	0	0	0	0	0	0	0	0

BERHAMPOE.

Four Observations daily.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North ...	14	6	8	3	1	0	2	1	2	5	16	13
N N E ...	8	3	2	5	0	1	0	0	6	6	3	1
N E ...	5	8	2	12	3	2	4	13	6	8	2	0
E N E ...	3	2	2	3	2	2	7	10	5	3	0	0
East ...	3	6	0	10	18	15	16	19	19	6	1	0
E S E ...	0	3	3	4	7	3	20	18	9	13	2	0
S E ...	1	5	2	7	5	4	10	16	15	6	1	0
S S E ...	0	1	8	8	25	20	16	13	25	13	1	0
South ...	0	8	6	22	28	53	31	16	17	9	3	0
S S W ...	3	4	7	7	8	5	13	9	5	16	5	0
S W ...	7	5	16	4	7	3	1	1	3	5	6	2
W S W ...	5	8	9	2	2	1	1	2	2	3	1	10
West ...	11	19	42	23	13	9	3	3	3	15	21	26
W N W ...	15	9	9	4	3	1	0	0	0	5	6	8
N W ...	34	14	4	1	0	0	0	0	0	4	14	11
N N W ...	15	11	4	5	2	1	0	3	3	7	38	53

PATNA.

Four Observations daily.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	0	2	3	2	0	3	1	0	5	2	4	0
N N E	0	7	1	0	0	0	0	9	0	0	0	0
N E by N	0	0	3	12	10	4	5	0	14	11	12	3
N E	1	1	0	7	5	2	0	8	1	4	8	3
E N E	4	17	6	18	39	40	38	45	33	25	45	11
East	0	3	0	4	3	1	4	4	9	1	0	0
E by S	0	0	0	0	3	0	0	0	0	1	0	0
E S E	0	6	1	11	17	43	46	5	22	11	5	7
S E	2	2	0	3	0	0	0	0	0	5	0	0
S E by S	0	0	2	4	2	2	6	1	10	10	1	1
S S E	5	2	2	0	1	0	0	1	0	0	0	0
South	2	0	0	0	0	1	0	0	1	0	0	0
S S W	12	15	5	0	0	0	0	6	0	0	0	0
S W by S... ...	0	0	4	3	0	4	10	3	11	4	0	3
S W	10	3	5	2	3	3	1	8	0	2	0	3
W S W	31	17	35	15	17	3	7	23	10	4	2	14
West	11	3	8	2	5	1	0	4	0	1	4	4
W N W	34	25	35	16	8	2	3	5	4	18	23	21
N W	3	2	8	11	5	2	0	0	0	13	5	21
N W by N ...	0	0	2	9	6	9	3	1	0	12	11	6
N N W	9	7	4	1	0	0	0	1	0	0	0	0
N by W	0	0	0	0	0	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	0	0	0	0	0	0	0	0	0	0	0	0

MONGHYR.

Four Observations daily.

	Jan.	Feb.	Mar.	April.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	0	2	3	7	4	1	1	1	4	2	5	2
N N E	0	1	1	3	2	3	1	3	5	4	0	0
N E	2	5	0	7	11	6	8	8	6	7	0	1
E N E	2	3	1	13	32	21	8	1	11	9	1	0
East	4	10	2	32	22	28	29	33	28	17	0	0
E S E	1	1	0	4	21	39	36	13	9	6	0	0
S E	0	0	1	1	2	2	3	4	6	2	0	0
S S E	0	1	0	0	0	1	0	1	2	4	0	0
South	1	0	1	0	0	0	0	2	4	1	0	1
S S W	0	3	1	0	0	1	3	6	1	3	2	3
S W	32	28	11	8	4	2	2	22	6	10	23	34
W S W	34	11	13	8	4	4	0	6	2	4	24	24
West	22	20	37	17	8	0	0	1	2	4	19	25
W N W	8	3	17	4	2	1	2	0	1	3	7	0
N W	4	2	11	2	3	1	0	0	2	2	6	1
N N W	1	0	0	0	0	1	0	0	2	2	1	0
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	13	22	25	13	9	9	31	22	29	44	32	33

DARJEELING.

Four Observations daily.

	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	1	0	0	1	1	1	0	0	1	1	1	1
N N E	0	0	0	0	0	0	0	0	0	0	0	0
N E	0	0	0	3	5	5	0	5	8	2	5	5
E N E	2	0	0	0	0	1	1	1	0	0	1	1
East	46	46	33	32	42	26	21	31	24	34	28	21
E S E	6	1	7	6	8	6	11	8	4	4	4	4
S E	9	8	8	11	20	16	21	14	14	12	13	8
S S E	0	0	0	0	0	1	4	4	2	1	0	1
South	1	1	3	2	3	6	7	9	3	5	1	4
S S W	0	1	0	0	0	1	2	2	1	1	0	0
S W	5	12	12	12	16	11	14	13	13	6	7	13
W S W	4	2	5	3	1	1	6	5	1	3	3	6
West	40	38	41	33	22	34	20	18	31	36	36	40
W N W	5	0	6	3	0	0	10	7	4	3	5	8
N W	5	3	9	14	6	11	7	7	14	16	16	12
N N W	0	0	0	0	0	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	0	0	0	0	0	0	0	0	0	0	0	0

GOALPARAH.

Four Observations daily.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North	1	3	4	0	1	5	3	1	5	0	0	1
N N E	1	3	3	4	4	2	2	4	1	1	2	4
N E	3	10	10	8	5	9	3	3	7	7	6	8
E N E	7	15	12	11	10	6	2	3	13	14	6	14
East	41	40	36	53	56	30	35	35	26	33	44	45
E S E	7	9	8	8	16	10	12	20	11	27	21	17
S E	5	1	2	4	2	2	7	5	8	4	6	12
S S E	0	0	0	1	5	2	1	3	1	2	2	4
South	7	1	1	1	4	6	10	12	8	3	3	4
S S W	2	6	8	1	9	5	11	6	9	6	3	3
S W	8	5	3	3	3	6	13	11	4	7	8	2
W S W	16	6	14	2	3	8	2	1	5	4	2	2
West	23	11	20	17	4	11	24	14	12	7	13	5
W N W	2	0	1	2	1	5	0	5	3	3	1	0
N W	0	1	2	5	0	7	0	0	3	4	2	2
N N W	1	1	0	0	1	6	0	1	3	2	1	1
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	0	0	0	0	0	0	0	0	0	0	0	0

SHILLONG.

January to November Four Observations, December three Observations daily.

	Jan.	Feb.	Mar.	April	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	10	5	1	6	9	4	7	7	8	8	4	10
N N E	3	1	0	2	3	0	0	2	1	4	5	3
N E	1	1	0	2	0	1	0	2	0	0	0	6
E N E	3	4	1	3	2	1	2	5	1	2	6	3
East	12	2	0	3	0	3	3	14	4	10	9	11
E S E	2	1	0	7	3	4	2	8	4	1	4	0
S E	9	1	1	1	2	1	0	3	6	10	7	7
S S E	4	5	1	2	7	1	7	5	6	4	3	0
South	11	12	13	10	14	25	28	18	17	16	16	8
S S W	13	22	45	21	21	25	23	18	12	24	10	6
S W	6	16	15	20	19	19	12	4	18	15	20	7
W S W	0	3	11	5	2	3	13	10	4	3	3	2
West	3	9	11	9	5	7	4	7	11	4	4	1
W N W	4	3	1	4	6	2	6	8	11	9	14	12
N W	30	23	19	14	20	17	6	11	12	8	12	12
N N W	13	4	5	7	10	7	11	2	5	6	3	5
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	0	0	0	0	0	0	0	0	0	0	0	0

BENARES.

Four Observations daily.

	Jan.	Feb.	Mar.	April.	May.	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.
North	2	6	5	5	11	6	2	0	3	2	8	6
N E	6	7	4	18	13	11	2	6	22	11	3	5
East	5	24	6	23	26	20	36	21	30	31	3	5
S E	1	4	5	2	2	10	8	7	6	1	0	0
South	7	1	6	5	2	7	13	12	3	3	5	3
S W	2	2	11	3	3	11	17	21	6	5	1	2
West	27	36	37	11	24	24	11	28	9	11	19	37
N W	17	4	15	15	13	8	5	2	6	7	15	18
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	56	28	31	37	24	19	26	22	34	50	65	47

ROORKEE.

Four Observations daily.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
North	0	0	4	1	2	0	1	2	0	0	0	0
N E	0	3	5	6	2	1	0	0	1	0	0	0
East	5	4	17	4	0	1	6	2	2	3	0	0
S E	8	9	8	11	14	23	33	23	18	18	8	7
South	0	0	0	0	0	0	0	1	0	1	0	0
S W	0	0	0	0	0	1	1	2	2	1	0	2
West	26	5	5	5	1	1	0	1	0	0	0	0
N W	12	16	8	18	35	25	6	19	15	11	8	20
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Calm	11	19	15	15	8	8	15	12	22	28	44	33

Table XVI.—Wind Resultants for 1870.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
Port Blair ...	78	N 56 E	69	N 56 E	84	N 47 E	46	N 51 E	88	S 45 W	66	S 33 W	97	S 43 W	98	45 W	81	S 33 W	44	S 9 W	42	N 41 E	95	N 36 E
Madras ...	68	N 26 E	71	N 35 E	71	S 72 E	42	S 55 E	54	S 5 E	37	S 80 W	74	S 63 W	38	S 71 W	46	S 69 W	20	S 20 W	52	N 23 E	87	N 6 W
Vizagapatam ...	69	N 88 E	50	S 41 E	48	S 30 W	48	S 25 W	53	S 31 W	53	S 36W	71	S 65 W	43	S 65 W	24	S 55 W	24	S 31 W	45	N 73 E	65	N 75 E
Akyab ...	0	0	58	N 10 E	45	N 2 W	39	N 20 W	43	N 84 W	16	S 20 W	84	S 19 E	73	S 10 E	41	S 12 E	13	S 79 E	27	N 10 W	62	N 18 W
False Point ...	70	N 46 E	11	S 41 W	58	S 61 W	66	S 41 W	87	S 33 W	82	S 45 W	67	S 65 W	47	S 72 W	30	S	37	S 42 E	33	N 5 E	62	N 12 E
Cuttack ...	44	N 21 E	36	N 48 W	38	S 78 W	50	S 3 W	79	S 9 E	73	S 4 W	67	S 24 W	47	S 48 W	41	S 52 E	31	S 80 E	41	N 21 W	54	N 30 W
Saugor Island ...	70	N 12 E	48	S 76 W	70	S 49 W	66	S 21 W	84	S 20 W	78	S 26 W	75	S 34 W	59	S 43 W	69	S 3 W	25	S 9 W	35	N 2 E	75	N 3 W
Chittagong ...	83	N 25 W	61	N 39 W	43	N 78 W	23	S 64 W	53	S 9 E	66	S 35 E	83	S 52 E	46	S 35 E	35	S 32 E	13	S 40 W	38	N 28 W	49	N 27 W
Calcutta ...	57	N 34 W	68	S 60 W	71	S 51 W	28	S 14 W	85	S	84	S 1 W	86	S 3 E	67	S	82	S 16 E	51	S 24 E	22	N 48W	75	N 79 W
Jessore ...	85	N 2 E	52	N 47 W	27	N 63 W	42	S 9 E	67	S 13 E	79	S 3 E	86	S 8 E	60	S 11 E	70	S 23 E	39	N 82 E	72	N 12 E	90	N 4 W
Dacca ...	73	N 47 W	44	S 71 W	50	S 30 W	26	S 8 E	83	S 15 E	88	S 8 E	91	S 19 E	68	S 9 E	62	S 17 E	34	S 23 E	30	N 35 W	53	N 29 W
Cachar ...	63	S 14 W	47	S 26 W	41	S 23 W	16	S 42 E	21	N 41 W	10	S 70 E	11	N 4 W	12	S 8 W	2	S 47 E	32	N 71 E	26	S 85 E	64	S 27 E
Hazareebaugh ...	69	N 73 W	59	N 85 W	67	N 85 W	24	S 66 W	32	N 77 W	44	S 32 W	38	S	29	S 82 W	33	S 36 E	16	N 66 W	80	N 47 W	90	N 59 W
Berhampore ...	64	N 41 W	32	N 65 W	54	S 77W	18	S 4 W	53	S 13 E	66	S 12 W	64	S 35 E	58	S 56 E	55	S 47 E	17	S 1 E	61	N 44 W	79	N 46 W
Patna ...	66	S 81 W	22	N 78 W	63	N 86 W	22	N	30	N 57 E	55	N 83 E	57	S 81 E	17	N 66 E	46	N 89 E	24	N 24 E	49	N 22 E	56	N 61 W
Monghyr ...	66	S 70 W	37	S 64 W	62	N 87 W	19	N 58 E	52	N 76 E	70	S 87 E	60	N 81 E	32	S 51 E	38	N 88 E	16	S 86 E	58	N 77 W	64	S 65 W
Darjeeling ...	7	S 30 E	13	S 6 E	11	S 20 W	10	S 51 W	28	S 49 E	14	S 10 W	28	S 6 W	23	S 20 E	12	S 51 W	10	S 52 W	12	N 88 W	29	S 78 W
Goalparah ...	19	S 35 E	36	N 84 E	18	E	45	N 83 E	61	S 79 E	15	N 80 E	30	S 28 E	37	S 49 E	27	S 73 E	46	S 76 E	47	S 74 E	65	S 83 E
Shillong ...	15	N 54 W	41	S 63 W	65	S 51 W	35	S 58 W	38	S 66 W	48	S 43 W	48	S 39 W	22	S 20 W	43	S 45 W	32	S 30 W	19	S 43 W	15	N 32 W
Benares ...	26	N 73 W	11	N 44 W	35	N 88 W	20	N 34 E	19	N 3 E	5	S 65 E	23	S 34 W	24	S 28 W	28	N 71 E	17	N 69 E	24	N 59 W	37	N 67 W
Roorkee ...	41	N 83 W	14	N 61 W	28	N 64 E	17	N 9 W	37	N 38 W	3	N 45 W	50	S 52 E	65	S 36 E	7	S 50 E	16	S 47 E	0	0	21	N 53 W

A recent examination of the existing registers of wind direction in Bengal the Central and N. W. Provinces, and the Panjab, which relate to periods of three to ten years,* shews that the normal course of the monsoon currents is as follows:—

Beginning with the month of October, or the close of the rainy season, calms or westerly winds predominate in the Upper Provinces, while in the Lower N W Provinces and Bengal the winds set in from west and north-west, becoming more northerly in the Delta, and N. East in the Bay of Bengal, (especially on the Indian side.) In the Central Provinces the prevailing directions are N and N E during the winter months; and in the Panjab, north along the course of the Indus, and under the lea of the Suliman range, becoming more westerly as the distance from the hills increases. From February onwards, the northerly elements decrease in amount, calms are less frequent in the Upper Provinces, and westerly and north-westerly winds begin to predominate over the greater part of northern India, while in the Gangetic delta and on the coast of the Bay, the wind is most frequently from the south. At Ajmere it is chiefly west and south-west, the direction being probably influenced by the neighbouring Aravalli range. In the hot weather months the dry westerly or continental, and the southerly or coast currents meet in Bengal, in the region of barometric depression before adverted to, that lies to the west of the Delta. As the season advances, the latter penetrate further up the Gangetic valley as easterly or south-easterly winds; while over western and central India, the westerly current draws round towards south-west and sweeps over the country, bringing the monsoon rains. At Calcutta the most rainy quarter for the wind is S S E. In September the monsoon slackens, but continues to blow from the same direction over the western half of India, while in Bengal and generally over the eastern half, it veers to S E; a nda further veering in October to E and N E on the Coromandel coast, coincident with the setting of the N E monsoon in the upper part of the Bay, brings the principal rainfall of the year to the previously dry region of the Carnatic.

In the early months of 1870, the land winds were more steady and persistent than usual in Bengal, as was remarked in a note appended to the Report for 1869 (p. 21) and as is shewn by the Comparative Table given on next page. Hence doubtless the comparative dryness of these months, of which the rainfall and humidity tables afford evidence. In June the S W monsoon set in with more than average steadiness, but with less easting than usual, and these peculiarities persisted throughout the rainy season; except in Orissa, where in September and October the wind veered to the eastward, and brought the abundant rainfall which preserved that province from the dearth which for sometime appeared to threaten it. The southerly monsoon lasted later than usual in Lower Bengal, and it was not until nearly the middle of November that the land winds fairly set in. In December they blew very steadily, with more than average westing, in Lower Bengal and Orissa; and this appears to have been coincident with, and perhaps therefore due to an excessive barometric pressure in Central India.

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* This examination is not yet completed. The present sketch is based on the following data :—

Rawul Pindee... ...	3 years.	Agra	7 years	Cuttack ...	3 years
Dera Ismail Khan ...	3 „	Benares	7 „	Nagpur ...	3 „
Lahore	3 „	Hazareebaugh ...	3 „	Jabalpur ...	3 „
Multan	3 „	Calcutta ...	10 „		
Ajmere	7 „	Dacca ...	3 „		

Table XVII.—Comparison of wind resultants in 1870 with the means.

	Calcutta.		Cuttack.		Hazareebaugh.		Dacca.	
	Mean Ten years.	1870.	Mean Three years.	1870.	Mean Three years.	1870.	Mean Three years.	1870.
January	40 N 38 W	57 N 34 W	25 S 68 E	44 N 21 E	60 N 70 W	69 N 73 W	40 N 45 W	73 N 47 W
February	23 S 79 W	68 S 60 W	22 S 18 E	36 N 48 W	58 N 77 W	59 N 85 W	37 S 80 W	44 S 71 W
March	47 S 33 W	71 S 51 W	47 S 2 W	38 S 78 W	61 N 85 W	67 N 85 W	48 S 32 W	50 S 30 W
April	74 S 3 W	28 S 14 W	63 S 3 W	50 S 3 W	32 S 89 W	24 S 66 W	48 S 5 E	26 S 8 E
May	65 S 12 E	85 S	74 S 7 E	79 S 9 E	17 S 36 W	32 N 77 W	65 S 24 E	83 S 15 E
June	58 S 5 E	84 S 1 W	56 S 8 W	73 S 4 W	35 S 6 W	44 S 32 W	79 S 18 E	88 S 8 E
July	65 S 12 E	86 S 3 E	52 S 39 W	67 S 24 W	31 S 13 E	38 S	88 S 23 E	91 S 19 E
August	55 S 18 E	67 S	45 S 44 W	47 S 48 W	32 S 58 W	29 S 8 2 W	75 S 6 E	68 S 9 E
September	40 S 30 E	82 S 16 E	25 S 24 E	41 S 52 E	36 S 50 E	33 S 36 E	64 S 23 E	62 S 17 E
October	13 N 53 W	51 S 24 E	30 N 51 W	31 S 80 E	34 N 66 W	16 N 66 W	3 S 23 E	34 S 23 E
November	58 N 19 W	22 N 48 W	51 N 16 W	41 N 21 W	62 N 50 W	80 N 47 W	36 N 1 W	30 N 35 W
December	60 N 27 W	75 N 79 W	27 N 1 W	54 N 30 W	62 N 66 W	90 N 59 W	47 N 28 W	53 N 29 W

Storms.

The shores of Bengal were not visited by any violent storm during the year 1870, but a severe cyclone passed over Vizagapatam on the 5th November, and one was reported to have occurred in the south of the Bay on the 10th and 11th January; of this latter no details could be obtained. A little storm apparently of cyclonic character, but quite local and of no great violence, was met with in the N E corner of the Bay by the B. I. S. N. Co.'s Steamer *Moulmein* on the 30th May; and on the 19th and 20th June a gale was experienced at the Sandheads, and the appearance of the weather at Calcutta was such as is usually premonitory of cyclones. Although as the event proved, all the conditions of the formation of such a storm were not fulfilled on this occasion, the occurrence is not of less interest, as contributing to the Physical History of this class of atmospheric disturbances.

Storm of 10th and 11th January.— I am able to say nothing further of this storm than that several ships arriving in Calcutta in the latter part of January reported that they had experienced a cyclone in or about N lat. 78, E long. 87° or about in the latitude of Ceylon and midway between that island and the Nicobars. Some indications of the disturbance were felt around the Bay, in the increased temperature, fall of atmospheric pressure, and change in wind direction. These latter were most marked at Port Blair, the least distant station, but more than 400 miles to the N E of the reported place of the storm. Here the temperature rose gradually, but steadily from 77·8 on the 3rd, to 80·5 on the 7th and 8th, after which it fell to 74·5 on the 12th, the fall on the last two days being most rapid. This variation of temperature was not accompanied by any considerable change in the humidity until the last two days; when it rose suddenly, and rain fell at Port Blair and continued at intervals up to the 18th. The barometer fell steadily from the 6th to the 11th to a total amount of 0·238 inches, which at this station is greater than the whole annual range on the means of the months. The wind was steady from the N E up to the 11th, when it veered to S E and continued in that quarter up to the 16th.

In Bengal there was a steady increase of temperature from 64° on the 1st, to 72·8 on the 7th January, after which it fell to 64° on the 10th to 13th. During the same period the barometer fell from 30·021 to 29·873., on the 13th, and the wind was frequently from N N E and N E. At False Point the wind blew frequently from E and S E between the 6th and 9th, after which it set in steadily from N E, the regular monsoon quarter. At Vizagapatam the winds were E or S E chiefly; at Madras N E or N N E up to the 10th, and NNW afterwards. On the west coast generally the fall of the barometer was about the same in amount, and took place during the same period as in Bengal. It was lowest on the 13th, and this was accompanied by a fall of 6° of temperature between the 8th and 12th at False Point and Madras, and 3° at Vizagapatam between the 9th and 12th.

Cyclones are of rare occurrence in January in these seas, north of the Equator, but I find that one is recorded in 1805 by Mr. Piddington, and doubtless other instances of the kind could be furnished by experienced seamen.

Storm of 30th May.—This little storm lasted altogether barely 24 hours, and probably broke up where it was formed, since it does not appear to have been felt on any part of the coast; and the *Moulmein* is, so far as I know, the only vessel that fell in with it. Its occurrence is, however, distinctly indicated in the registers of Chittagong and Akyab, between which ports the *Moulmein* was steaming at the time, and it may be regarded as an eddy or a cyclone in an early stage of formation, which was not further developed owing to the absence of favouring circumstances.

Its occurrence was preceded by a steady fall of the barometer over the north of the Bay and in Bengal; for four days at Akyab, and five at Chittagong. At the former station the fall amounted to 0·21, and at the latter to 0·25 inch. At Saugor Island the fall began on the 24th, and in seven days amounted to 0·245 inch, and at False Point on the 25th, and amounted to 0·266 inch. At Port Blair, on the other hand, the pressure scarcely varied up to the last three days of the month. At the inland stations in Bengal the fall was also felt. At Dacca it amounted to 0·224, at Jessore to 0·208, at Calcutta to 0·201, at Berhampore to 0·198, and at Cuttack to 0·211, in periods respectively of 5,4,5,4 and five days. At Vizagapatam it was 0·277, and at Madras 0·116.

During the entire period, the wind at Port Blair blew steadily from the S W; with a considerable increase of force however on the 29th and 30th. At Akyab it was from W S W, S W and S., the force increasing on the 28th from 1 to 2 and 3 of Beaufort's scale, and it continued to blow with force till 2 the afternoon of the 31st, veering to S E. on the 29th and forenoon of the 30th. At Chittagong it varied between east and south up to the evening of the 29th, when it blew steadily from east and continued in that quarter till the afternoon of the 30th. It is however, to be remarked that here, as well as at Dacca and Jessore, Saugor Island, Calcutta, and Berhampore, but especially Jessore, the velocity as measured by the anemometer, fell with the commencement of the barometric fall and was lowest on the 30th, the day of the storm. At Dacca and Jessore the wind was chiefly from S or S E., at Calcutta and Saugor Island southerly on the whole, but very variable; and at False Point steadily from the S W. up to the 29th, when it drew round more to south. There was no marked change of temperature at any of the stations.

On the 29th and 30th, the distribution of mean atmospheric pressure reduced to sea-level was as follows :—

	29th	30th
Port Blair	29·757	29·691
Akyab	.631	·576
Chittagong	·636	·571
Dacca	·566	.512
Jessore	·530	·502
Berhampore	·538	·486
Calcutta	·546	·485
Saugor Island	·542	·485
False Point	·593*	·513*
Cuttack	·542	·495

* This Barometer has not been verified for some years and probably reads somewhat too high.

The lowest pressure was therefore at Saugor Island, Calcutta, and Berhampore, and to north-west of the place of the storm. But when nearest to the storm at 6 and 7 A. M. of the 30th, the *Moulmein* registered a pressure lower than any of the above, *viz.*, 29·414 (as given by an aneroid corrected by the Chittagong barometer); the pressure having fallen 0·26 since the steamer left that port on the previous afternoon. On her leaving Chittagong the wind was south, but in the evening it veered to E S E. with sharp squalls and a heavy sea. By midnight it had veered back to S E. and between 4 and 7 A. M. on the morning of the 30th, went round gradually to S by W. It was in this quarter when the barometer was at its lowest point. It continued to veer to W S W. at 11 A. M., after which the weather cleared up. The wind and sea veered together, a cross sea occurring only for about two hours during the change of wind from S S E to S S W. A thick bank was visible during the height of the storm, extending from N N W to S W., while to eastward there was every appearance of fine weather.

This little storm therefore, presented most, if not all of the characters of a cyclone, the steamer's position being to the east of the centre; and I see nothing except its brief duration and the place of its origin, to distinguish it from the more formidable storms that occur in the Bay at this time of year. It appears to be identical in character and almost in position, with that met with by the same steamer on the 1st May in the previous year, and noticed in the Report for 1869, and in many respects with the great storm of June 3rd and 5th of 1839, described by Mr. Piddington. If this be admitted, the evidence that it affords how such storms *may be* formed, becomes of importance.

The primary cause or more correctly, the first phase of the atmospheric change (as far as we can trace it) appear to have been a rapid relative decrease of atmospheric pressure over the north and north-west of the Bay and in Bengal. What the cause of this may have been is not apparent, but there does not appear to be any thing to countenance the inference, that it was due to the juxta-position of opposite wind currents, an explanation which, however applicable to some other storm regions, there seems to be no sufficient ground for extending to the case of most of the Bay of Bengal cyclones. This fall, it is to be observed lasted from four to seven days, and was most intense on the north and north-west coast of the Bay from Vizagapatam to Chittagong. During this fall a steady S. Westerly wind prevailed over the Bay, deflected to the south and somewhat east of south in the Delta, as is normally the case in the S W monsoon; *(see ante p.* 110.*)* Everywhere to the north of the coast line the velocity of the wind diminished coincidently with the barometric fall, while at Akyab during the three last days and at Port Blair on the last two, it underwent a marked increase. The S W current was then checked where the line of low pressure ran directly across its course, and an eddy was produced at the eastern extremity of the line. The low pressure recorded by the *Moulmein* in the vicinity of the storm, I should attribute to the immediate effect of the eddy.

I do not here attempt more than an explanation of this particular storm. Whether the state of things here described is such as generally precedes the storms that affect the northern part of the Bay at this period of the year, can be ascertained only by an ample discussion of past registers, which would be out of place in the present report.

Gale of 19th and 20th June.—For an account of this little gale, I am indebted to Mr. S. R. Elson, a master pilot of the port. It was felt only as a steady W S W gale at the Sandheads and False Point, but the indications of the wind vane, anemometer and barometer at Calcutta, during the day preceding the gale, were so similar (except in one particular) to those which experience has shewn to forerun cyclones, that it was thought advisable to hoist the warning signals on the afternoon of that day.

In many respects the atmospheric conditions that preceded and led up to this gale were closely analogous with those of the storm last noticed. These were, a steady fall of the barometer over a considerable area in the north of the Bay and in Bengal for several days, most intense in the N W. corner of the Bay; a marked diminution in the velocity of the wind at all the stations in the Delta, but unaccompanied by any change in its general direction, (except in the immediate neighbourhood of the centre of depression) till the day preceding the gale; and finally a rush of air from the southward (in the present case from W S W.) to the place of greatest depression, and a tendency of the winds to circulate around it.

The fall of the barometer began on the 14th June, (at Chittagong and Akyab on the 13th) and reached its minimum on the 19th;) at Akyab a day earlier, and at Hazareebaugh a day later). The amount of fall at each station up to the 19th and the mean sea-level pressures on that day were as follow:—

	Fall.	Bar 19th June.
Vizagapatam ...	0·224	... 29·481
False Point ...	0·305	... 29·421*
Cuttack ...	0·340	... 29·398
Saugor Island ...	0·405	... 29·316
Calcutta ...	0·377	... 29·354
Hazareebaugh ...	0·186	... 29·391
Berhampore ...	0·282	... 29.432
Jessore ...	0·311	... 29·403
Dacca ...	0·286	... 29·461
Chittagong ...	0·262	... 29·515
Akyab ...	0·240	... 29·635

The distribution of pressure at the commencement of the gale was, therefore, similar to that shewn in the chart for August 1868, published in the Report for 1869; and indeed the state of the atmosphere represented in that chart was due to the frequent recurrence during the month in question, of disturbances similar in their general features to that now described. The lowest mean pressure recorded on the 19th was 29·14 on board the pilot brig at the Sandheads. (E C. station.)

Up to the last two days, there was little change of temperature during the week preceding the gale; except at Cuttack, where it fell from 90° on the 15th to 81° on the 19th. The Humidity of the atmosphere at Calcutta increased from 73 per cent. on the 15th to 91 on the 17th, and 96 on the 20th; and at Jessore nearly as much. At Hazareebaugh the increase was from 68 on the 14th to 92 on the 19th, and at Berhampore from 79 on the 16th to 90 on the 18th, and 92 on the

* See note page 113.

20th. On the 19th at this station it fell temporarily to 79, the wind being from the east. At the more easterly stations, Dacca and Chittagong, the humidity was high throughout. Rain was frequent at all the stations north and east of the depression, but none fell at Cuttack up to the 18th. The state of the wind during the first days of the barometric fall has been noticed above. Easterly winds set in on the 18th at Calcutta and Saugor Island, on the 19th at Jessore and Dacca. At Hazareebaugh it blew from N and E. on the 18th and 19th, while at Cuttack and False Point it was variable on the 17th and 18th, and then set in from N W and W., veering to W S W. The gale set in at the Sandheads and False Point during the night of the 19th, and blew all through the 20th and on the morning of the 21st. At Saugor Island the force was registered at 1 to 2 of Beaufort's scale (1 to 6) on the 19th, 2 to 4 on the 20th, and 4 on the 21st. In direction it veered from E to S W. on the 19th, and blew steadily from that quarter on the 20th and 21st. At Calcutta the force of the wind never exceeded that of a fresh breeze, the registered velocity being 274 miles on the 19th, and 302 on the 20th. It should be noticed that although the appearance of the weather in most respects closely resembled that of an approaching cyclone, the wind never blew in those fitful eddying gusts that are especially characteristic of such storms. After the 19th the barometer rose rapidly, and the wind blew steadily from the usual monsoon quarter, as it had done before the storm.

' The chief interest of this disturbance lies in the fact, that while it was evidently of a cyclonic character, and resembled in most of its essential features the storm last noticed, it differed only in its somewhat unusual intensity from those minor disturbances that frequently occur during the S W. monsoon and were of unusual frequency in the monsoon of 1868. I have observed that whenever during this season the barometer at Saugor Island falls below that at Calcutta, the wind veers more or less to the eastward, returning to the south or S W. as the barometer rises: it is during the rise that rain generally falls copiously. On the other hand I may draw attention to the fact, that the gradual fall of atmospheric pressure over a certain circumscribed area, antecedently to the circulation of the wind currents, and in the absence, as far as regards the lower atmosphere at all events, of opposite currents, is precisely similar to the sequence of phenomena which characterised the early history of the November cyclone of 1867. That the cyclonic storms formed in the north of the Bay, are rarely violent and lasting, and seldom travel forward over the land, may I think be accounted for, by the fact that all these storms require some days to attain their full force, and that when a vortex is formed in the extreme northern part of the Bay, the friction of the land surface and of the numerous obstacles on it, must greatly reduce the velocity of the winds around. Nevertheless, a few cases are recorded of severe cyclones that have originated in this region during the S W. monsoon months: that of the 3rd to 5th June 1839, already referred to, has been fully described by Mr. Piddington.

Vizagapatam storm 1st to 5th November.—This was one of those cyclones that so frequently mark the change from the S W. to the N E. monsoon. It passed over the station of Vizagapatam on the night of the 4th and morning of the 5th November, and I have received from Mr. A. V. Nursingrow, whose

observatory has furnished the register given in the foregoing pages, a detailed account of it as there experienced, with a set of observations recorded at frequent intervals during its passage. Of its earlier history I have been able to gather but little information. But the logs of a few ships which I have obtained chiefly through the assistance of Captain Butler,* and those of the steamers belonging to the B. I. S. N. Company, † together with the registers of Port Blair and other observatories on the coast of the Bay, enable me to give some account of the state of the atmosphere around the storm area, which is not without interest. The storm probably commenced as early as the 1st of the month, and I should infer to the west of the Andaman Islands, but at some distance from them, since the barometer at Port Blair was but slightly affected.

During the last four days of October a considerable change took place in the distribution of atmospheric pressure over the Bay. On the 28th the pressure was lowest at Vizagapatam and Port Blair, while at Madras to the southward, and at all the coast stations around the northern part of the Bay it was about ·05 higher than at Vizagapatam. On the three following days, the Madras pressure remained almost unchanged, but a general rise took place to the north-west, which brought the pressure at Vizagapatam up to an equality with Madras, and that at Saugor Island and False Point above all other stations. At the same time a fall of nearly 0·1 took place at Port Blair, which brought that station about 0·15 below the stations in the N W of the Bay. These changes are shewn by the following table of mean sea-level pressures on the 28th and 31st respectively :—

	28th.	31st.	change.
Madras ...	29·881	29·887	+·006
Vizagapatam...	·824	·887	+·063
False Point? ‡	·911	934	+·023
Saugor Island...	·871	·903	+·032
Chittagong ...	·858	·844	—·014
Akyab ...	·880	·891	+·011
Port Blair ...	·850	·756	—·094

This change of pressure was unaccompanied by any decided change of temperature or humidity. There was a fall of 2° at Vizagapatam, and 3° at Port Blair, where the mean temperature ranged from 6° to 10° lower than elsewhere. Elsewhere it was steady or slightly fluctuating between 80° and 84°. Over the north of the Bay as far down as lat. 18° or 19° on the Indian coast, and down to Port Blair in the east of the Bay, the wind was from N or N E. At Vizagapatam it was variable, and at Madras chiefly from the westward. On the open sea to the southward, the westerly monsoon of the line (so termed by Captain Maury) prevailed with its characteristic squally weather, and a mean temperature of 80°. The *Staffordshire* passing up to the east of the Nicobars on the 30th and 31st, found the winds from South and S E, the weather very unsettled, and observed on the latter day that the sky to the westward "presented a very wild appearance, assuming that peculiar olive green tint, often the precursor of cyclones." On the same day the S. S. *Scotia* in the neighbourhood of the Cocos Islands, after crossing the Bay from Calcutta

* Officiating Master Attendant of Calcutta.

† For these I am indebted to Captain Dando, the Marine Superintendent of the Company.

‡ See note page 113.

with a steady N E wind, met with heavy squalls and variable easterly and south-easterly winds, which she continued to experience during the night while passing to the east of the Northern Andaman. Her barometer fell about 0·2, but rose again during the 1st November, as she pursued her course past Barcen Island to Port Blair. The lowest reading at 2 A. M. was 29·645 (approximately rorrected to the Calcutta standard). Captain Smith of the S. S. *Oriental*, running between Rangoon, Coconada, and Madras, (and at the time between the two latter ports or in Madras roads, notices the "remarkable clearness of the atmosphere, the stars being quite as clearly visible when close to the horizon as they usually are at the zenith on a fine night." "On the dates mentioned, and for at least two weeks previously, no strong or continuous breeze had blown in the Bay" and he adds "I had the most favorable opportunity for knowing this satisfactorily, being employed running across the centre of the Bay from one coast to the other." His course had indeed been almost exactly that which the cyclone must have followed subsequently, and it lay along the calm belt between the N E monsoon, (which was blowing, as already noticed, in the north of the Bay,) and the westerly monsoon that prevailed between Cape Comorin and the line. The greatest width of this belt was on the Indian side of the Bay, where it extended over at least 12 or 13 degrees of latitude. In the longitude of the Andamans it probably did not exceed 6 or 7 degrees.

On the 1st, a slight fall of pressure was general all round the Bay, except at Chittagong, the minimum being that recorded by the *Scotia* off Coco Island. At Port Blair the mean pressure of the day was 29·741, and the wind changed to S W. from which quarter it blew with slight intermission for several days afterwards. Elsewhere, the winds on the 1st and 2nd were much as on the previous days. On the afternoon of the 1st, the *Mary Warren* running up the Bay between the meridians of 89° and 90° E. long. got into a westerly gale in lat. 10°, and continuing on the same course, on the 2nd, 3rd, and 4th, experienced the same weather, increasing in intensity up to midnight of the latter day, while the gale veered from W to S W and S S W. Between noon of the 1st and 4th her barometer fell 0·28 inches, her position on the latter day being N lat. 16° 10′, and E. long. 88° 53′.

At Madras and Vizagapatam the barometer fell steadily up to the 5th; at False Point and Saugor Island till the 3rd and 4th; at Chittagong it was lowest on the 2nd and 3rd, and at Akyab on the 2nd and 4th; while at Port Blair it rose from the 1st to the 4th, when it reached its highest point. The lowest pressure throughout this period was at Vizagapatam. The following are the mean pressures of these days reduced to sea-level:—

	1st.	2nd.	3rd.	4th.	5th.
Madras	...29·876	29·838	29·807	29·782	29·734
Vizagapatam	... ·862	·826	·765	·630	·506
False Point	... ·910	·844	·818	·835	·854
Saugor Island	... ·868	·821	·812	·808	·842
Chittagong	... ·849	·818	·817	·821	·851
Akyab	... ·874	·821	·839	·820	·862
Port Blair	... ·741	·789	·836	·905	·844

At Madras the storm was quite unfelt; the weather during all this period was calm and sultry, but a white haze covered the sky, and halos surrounded the sun and moon. On the 2nd and 3rd an easterly swell was experienced in the Madras roads, very heavy on the latter day, and on the 4th the current which had been running from the southward since the 29th October, changed to the north, and the easterly swell was crossed by one from the N E causing all the vessels in the roads to roll heavily.

At Saugor Island the storm was equally unfelt, but from the 2nd to the 4th the sky was over-cast and rain fell every day; and the wind was light from east and S E.

At False Point, on the 2nd the wind changed to north, and blew all day with a force of 2 to 3 of Beaufort's scale; on the 3rd it returned to N E. strengthening to 4; and on the 4th it blew with squalls all day from the same quarter, and 9 inches of rain fell. A heavy sea rolled up from S E. and E S E. on these two days. On the 5th the wind abated and veered to S E.

At Vizagapatam the weather was hazy and the wind light up to noon of the 3rd, when it began to blow from the N E. From 5 to 11 P. M. it lulled, and then shifted to N W and began to blow in squalls. During the day the sky looked heavy to the eastward and the surf was high, On the 4th it continued to blow fresh from N W and from noon to 2h 30 the barometer fell 0·142, the wind blowing in stormy squalls. From this time to 9 P. M. the barometer remained steady and 0·2 inch of rain fell. A little before 11 P. M. the wind veered to N E and the barometer recommenced falling 0°146. From 10 P. M. the readings of the barometer, and thermometer, and the wind directions were as follows :—

	Hour.	Bar.	Change.	Temperature.	Wind
4th November.	10 P. M.	29,525.	—	81·4	N E
,, ,,	12 ,,	·494	—0· 036	...	do
5th ,,	0h 20 A. M.	·330	—0· 164	...	do
,, ,,	1 ,,	·296	—0· 034	77	do
,, ,,	1h 30 ,,	·233	—0· 063	...	do
,, ,,	2h ,,	·156	—0· 077	78·1	N N E
,, ,,	2h 33 ,,	·020	—0· 136	...	do
,, ,,	3h ,,	28·857	—0· 163	...	E
,, ,,	3h 30 ,,	·697	—0· 160	...	do
,, ,,	4h ,,	·757	+0· 060	77·9	do
,, ,,	4h 30 ,,	...	... ...	...	S E
,, ,,	10h ,,	29·697	+0· 940	81	do

The lowest pressure then was at half past 3, when the wind was from the east; and the total fall from 10 P. M. when it began to blow a huricane, was 0·828 inch, The greatest violence of the wind was experienced between 2 and 4h A. M. 3 inches of rain fell during the passage of the Cyclone.

Mr. Nursingrow mentions that ball lightning was often observed during the storm, as well as lightning of the ordinary kind. Houses and trees suffered much injury. Some of the latter, which were blown down on his estate, measured 11 feet in girth of trunk, and large branches were blown to a distance of 30 or 40 yards.

There can be little doubt, that the centre passed very near Vizagapatam. Mr. Nursingrow speaks of a lull of 10 minutes at half past 2, after which the wind blew from S E. Another account, I believe by the Harbour Master, mentions no lull and gives the wind as in the above table.

At Bimlipatam twenty miles north-east of Vizagapatam, the storm appears to have commenced somewhat earlier. It blew a fresh gale from north at 8 P. M, from N N E at 11, and N E at midnight. The following readings of an aneroid are given; but they are not comparable rigorously with the barometric readings of Vizagapatam, the latter being reduced for temperature and to sea-level and corrected to the Calcutta standard, while the former are uncorrected.

		Bar. uncov.	Wind.
November 4th	8 P. M.	29·71	N
,, ,,	11 ,,	·44	N N E
,, ,,	12 ,,	·40	N E
,, 5th	2 A. M.	·32	E N E
,, ,,	3 ,,	·25	E
,, ,,	5 ,,	·35	E S E
,, ,,	7 ,,	·65	S E
,, ,,	10 ,,	·78	S S E

The gale was heaviest at 3 A. M. and began to moderate at 5 P. M.

At Calingapatam, 70 miles N E of Vizagapatam it blew a strong gale from 8 P. M. of the 4th, when the wind was N by E; having veered from N W since 10 A. M. It was N E at 10 P. M. and by 5 A. M. of the 5th had veered to E S E. Heavy rain fell over the interior as far as Chanda on the Godavery, and perhaps beyond.

POSTSCRIPT.

WHILE the foregoing Report was in the press, and after the greater part had been printed off, I visited Chittagong and Akyab, and re-determined by spirit level the elevations of the barometers at those stations. I thus found that the previous determinations were appreciably erroneous, especially in the case of the former station. There is still some doubt as to the mean sea-level at both these stations, but the elevaton of 90 ft. for the barometer at Chittagong, and 21 ft. for Akyab now determined, cannot be more than about 1 ft. in error. These elevations are, therefore, provisionally adopted in lieu of 108 ft. for Chittagong, and 15 ft. for Akyab as given on page 3.

The elevation of the Jessore barometer has been determined by comparison of its mean corrected readings with those of Dacca, Chittagong, Calcutta, and Berhampore, as mentioned in the note at page 3. The present correction of the elevation of the Chittagong barometer, therefore, necessitates a correction of that of Jessore, and this will henceforth be taken as 22 ft. Corrections corresponding to these altered values, should be made in table IV at page 20, and in the similar tables in previous Annual Reports. They have been applied to the reduced barometric readings quoted in the final pages of the present Report, page 112 to 120.

In this and previous Reports all barometric readings have been corrected as nearly as possible to the Calcutta standard (Newman's No. 84 at the Surveyor General's Office, Calcutta.) Hitherto the corrections of this barometer to the Kew and Greenwich standards have remained unknown. But during the past year, I have made several series of observations, to determine the difference of the standards. The nature and details of this comparison will be published in No. IV, Part II of the Journal of the *Asiatic Society* of Bengal for 1871.

The result is that the Calcutta standard reads ·011 inch higher than that of Kew, and ·015 than that of Greenwich. Consequently ·011 inch must be deducted from all readings given in these reports to render them comparable with those of the Kew standard, and of barometers corrected thereto, and ·015 to reduce them to those of the Greenwich standard.

REPORT

OF THE

METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL.

METEOROLOGICAL ABSTRACT

For the year 1871.

Ex-i-1

By HENRY F. BLANFORD,
Meteorological Reporter.

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METEOROLOGICAL ABSTRACT FOR 1871.

Introductory Remarks.

The present report gives the results of the registers of 1871, for the same stations as the report of the previous year, and for the station of Gya in addition, as that observatory was re-established at the beginning of 1871. Mr. Nursing Row, of Vizagapatam, and Dr. Foster (formerly of Dholebagaun, now of Nazeerah) have continued to furnish their interesting registers, and the results are included in the tables, with those of the official registers, as in the previous year. Barometric and rainfull data are also given for two new stations in Behar, for which I am indebted to officers of the Irrigation Department. A serious loss, much to be regretted, has, however, been sustained in the case of Port Blair. The barometer hitherto in use having suffered some injury in the early part of the year, was replaced, after the lapse of a few weeks, by an instrument which, as far as appears from the register, has not been compared with the local or any known standard. Being, therefore, affected by an error of unknown amount, this register, hitherto so important, has become almost valueless, and I omit it from the barometric tables of the present report. I cannot forbear referring to this as an instance, and a most regrettable one, of the inconveniences that occasionally arise from the want of any official connection between the meteorological systems of the different Governments. On the other hand, it is satisfactory to be able to announce that in two important provinces coterminous with Bengal efforts have been made with considerable success to render the barometric registers comparable with each other, and with those of Bengal. In the Central Provinces this has been accomplished by the exertions of the Sanitary Commissioner, Dr. Townshend, and in the North-Western Provinces by those of the Officiating Meteorological Reporter, Mr. J. Elliott. It has thus become possible to gain a knowledge of the distribution of atmospheric pressure over a large part of Northern India. The data for 1870 have already been laid down on charts, and the general results, which will be shortly described in the body of this report, are a not unimportant addition to Indian meteorology. The Punjab barometric registers still remain unavailable for comparison.

The system of exchange of registers, or of summarized results, which had been set on foot in previous years with Captain Fyers, the Surveyor-General of Ceylon, with Dr. Randell, of Singapore, with Dr. Townshend, the Sanitary Commissioner of the Central Provinces, and with Mr. Elliott, of the North-Western Provinces, has been regularly kept up, and I have availed myself of the information thus obtained to give a general sketch of the meteorology of the past year.

In addition to the data for the year, I have given the mean values of some of the more important meteorological elements at several stations, which have

been deduced from the present and past registers, after applying all the corrections recently determined. These values being based on only three to five years' registers in the case of Bengal, may be subject to some future correction, but seeing how small are the differences between the values for different years, it seems unlikely that such corrections will seriously alter the provisional mean values thus obtained.

To the meteorological elements discussed in previous reports I have now added the mean diurnal velocity of the wind. Notwithstanding the errors of unknown amount which must affect the anemometers in use, and the dissimilarity (in most cases unavoidable) of their exposure, a comparison of past registers has convinced me that the anemometric data have a considerable value, and that they show permanent as well as periodical differences, which cannot be attributed to irregularities of the instruments or inequalities of elevation above the ground surface. When an observatory shall be established in Calcutta, at which anemometers can be properly tested and compared, an increased value may be given to the registers of these instruments.

The monthly values of the following meteorological elements are given in this report:—

Atmospheric pressure.
Observed temperature of air.
Extreme temperatures of air (self-registered.)
Temperature of solar radiation.
Temperature of grass nocturnal radiation.
Humidity.
Serenity (proportion of unclouded sky.)
Wind direction.
Wind's mean diurnal velocity.
Rain-fall.

The registers show fewer interruptions than those of previous years, and in several cases the old instruments have been replaced by others of more delicate action, and which have been carefully corrected to known standards before being issued. The registers have all been examined, and the reductions and computations checked in the reporter's office, and the clearly erroneous observations have been rejected, as in former years.

The number of stations for recording rain-fall has been increased to 156, and the gauges being all of the same pattern (Symon's gauges constructed by Casella), the results are, I believe, trustworthy and comparable.

Hours of Observation.

The barometer, dry and wet bulb thermometers, and wind direction, are observed at 4h., 10h., 16h., and 22h., at all the stations except Port Blair and Madras, and the new stations Dehree and Arrah. From these stations only two sets of observations daily are received, *viz.*, those of 10h. and 16h. All minimum

thermometers are read at 10h., and the maximum thermometers and the rain-gauge at 18h. Local time is observed at all stations.

Stations.

The following table gives the geographical positions of all the stations of observation; also the elevation of the barometers above sea-level; or the elevation of the general ground level of the station, if the exact elevation of the instrument has not been ascertained. I append, moreover, a brief description of the physical geography of each station, as far as I am able to do so from a personal knowledge of the place, or from trustworthy information.

Table I.—Latitude, Longitude and Elevation of Stations.

Stations.	Lat. N.	Long. E.	Elevation in feet.	How determined.	Remarks.
Port Blair ...	11° 41′	92° 42′	110	?	
Madras ...	13° 5′	80° 70′	27	?	Barometer Cistern.
Vizagapatam ...	17° 42′	83° 22′	31	?	
Akyab (1) ...	20° 8′	92° 57′	21	By Spirit Level ...	Ditto.
False Point ...	20° 20′	86° 47′	18·7	Ditto ...	Light-House, B. M.
Cuttack ...	20° 29′	85° 54′	80	Ditto ...	Barometer Cistern.
Saugor Island ...	21° 39′	88° 5′	6	Estimated ...	Barometer Cistern approx.
Chittagong (2) ...	22° 21′	91° 50′	90	By Spirit Level ...	Barometer Cistern.
Calcutta ...	22° 33′	88° 21′	18·11	Do. ...	Ditto.
Jessore (3) ...	23° 9′	89° 7′	20	By Barometer ...	Ditto.
Dacca ...	23° 43′	90° 27′	35	Measured above Ground Level. G. L. estimated.	Ditto.
Hazareebaugh ...	24°	85° 24′	2,014	By Spirit Level to G. T. B. M.	Ditto.
Berhampore (4) ...	24° 6′	88° 17′	65	Ditto ...	Ditto approx.
Gya (5) ...	24° 42′	85° 2′	336	By Barometer ...	Ditto.
Dehree ...	25° 54′	84° 13′	362	By Spirit Level ...	Aneroid.
Patna (6) ...	25° 37′	85° 8′	170 179	Ditto ...	Barometer Cistern.
Arrah ...	25° 34′	84° 43′	195	Ditto ...	Aneroid.
Monghyr ...	25° 22′	86° 30′	160·4	Ditto ...	Barometer Cistern.
Silchar (7) ...	24° 49′	92° 50′	73 88·91	By Trig ...	Ditto.
Shillong ...	25° 32′	91° 54′	4,792	By Barometer ...	Ditto.
Goalparah ...	26° 11′	90° 40′	386	By Spirit Level to G.T.S. B.M.	Ditto.
Darjeeling ...	27° 3′	88° 18′	6,941	By Trig. ...	Ditto approx.
Benares ...	25° 20′	83° 2′	262·74	By Spirit Level ...	Ditto.
Roorkee. ...	29° 52′	77° 56′	879·7	Ditto ..	Ditto.

(1.) Hitherto assumed as 15 feet. The elevation now given is that above half-tide level in Akyab harbour as determined by Spirit Level.

(2.) Previously assumed as 108 feet. 90 feet is the difference (ascertained by Spirit Level) between the Barometer cistern and the 25 foot mark on the tide gauge of the Government jetty, which is taken as half-tide level.

(3.) Given as 27 feet in the Report for 1870. Now corrected for the corrected elevation of two of the reference stations, Chittagong and Berhampore.

(4.) Hi herto given as 80 feet. The levels taken by Colonel Searle show that the ground level of Berhampore is between 62 and 65 feet.

(5.) The elevation here given is provisional. It is the mean of a series of results obtained by comparing the mean barometric readings for March, and the seven months, June to December 1871, with those of Hazareebaugh Monghyr, Patna, Arrah and Dehree.

(6.) The Barometer was moved from the lower to the upper station on the 15th February.

(7.) The instruments were moved from the lower to the higher site on the 20th June.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger island. A range of mountains runs through the island from north to south, protecting Port Blair, in some measure, from the south-west monsoon. The Observatory is situated on Viper Island, a small rocky islet, some distance up the harbour.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's Mount and Palaveram, (seven and ten miles from Fort St. George.) The country rises gradually to the westward, forming the plains of the Carnatic or Payen-ghaut, and the nearest hills of considerable elevation are the Naggery Hils, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Vizagapatam.—This station is situated on the coast, about midway between the Chilka lake and the delta of the Godavery. It is the only part of the Coromandel Coast at which the hills advance actually to the sea-board. At Vizagapatam they form a promontory, known as the Dolphin's nose, which encloses a small bay, at the head of which the station is built. The interior is hilly, and covered with jungle, and has a bad reputation for fever.

Akyab, on the coast of Arakan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne River, much of which is flooded in the rainy season. The Arakan Hills, covered with an almost impenetrable jungle, are at a distance of about twenty miles to the north-east of the station; and the harbour which is formed by the estuary of the Koladyne, is partly closed on the south by a group of islands, the hills of which are 500 or 600 feet in height.

False Point.—The Light-house is a conspicuous land-mark on the coast of Orissa, standing on a prominent point of the Mahanadi delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant fifty miles. The coast-line trends about north-east and south-west; so that winds from east and south are sea winds, those from west and north, land winds.

Cuttack is built on flat alluvial ground at the head of the Mahanadi delta. The river, one of the largest in the Peninsula of India, issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches, the Kajouri and the Mahanadi, in the fork of which Cuttack is situated. To the west and north the country is hilly, and much covered with jungle, while to east and south of the station stretches the delta of the Mahanadi, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island.—The telegraph station, at which is also the Meteorological Observatory, is situated close to the south-western extremity of Saugor Island,

(one of the low-lying alluvial islands of the Sunderbuns,) and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal, to the west and north-west the estuary of the Hooghly, here about twenty miles broad, with the low marshes of Hidgellee beyond. To the east and north-east stretch the swampy jungles of the Sunderbuns, much of which are flooded at spring tides. Indeed, the station itself is below high water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arakan mainland, in the extreme north-east conner of the Bay of Bengal, and opposite to the embouchure of the Megna, the largest estuary of the Gangetic Delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, and forming the port of Chittagong, here enters the sea, from which the station of Chittagong is distant about three miles. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of a more elevated plain, formed of highly inclined (tertiary ?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about twenty miles distant. Thus situated, the station is exposed to the brunt of the south-west monsoon; and the rain-fall, as along all the Arakan Coast, is comparatively heavy.

Calcutta is situated sixty-eight miles from the sea, and about the same distance from the western edge of the Gangetic alluvium, which formation stretches away northward to the Himalaya, four hundred miles distant, and eastward for two hundred miles, nearly to the Tipperah Hills. About three miles to the east of Calcutta is the margin of the Salt Lake, a shallow brackish lagoon in an unfilled depression of the delta. To the south of this, much of the Sunderbun land is still unreclaimed from jungle, but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jheels) occur in many directions around Calcutta, and over all parts of the delta. The climate of Calcutta is therefore moist and the herbage green throughtout the year. The thermometric range, both annual and daily, is less than at stations higher up the country; the latter in the driest month of the year (March) does not exceed 19° or 20°.

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca.—Between the former course of the Brahmaputra, (still in its lower part a broad channel, the Megna) and that which the river now follows to its confluence with the Pudda or Ganges at Goalundo, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at its southern extremity, within a few miles of the Megna, on the bank of a small branch of the Brahmaputra. To the south is a net-work of broad rivers stretching to the sea, and in other directions (except the north) rice land and

grass jungle, which are flooded in the rains. At that time of the year, with the exception of the Madhopore jungle, but little land is visible. Hence the high humidity of the station.

Darjeeling, on a spur of the Singalelah Range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The Electric Telegraph Office, at which the thermometers, barometer and rain-guage are kept, is in the latter position, a little below the summit. The wind vane, &c., are on the crest of the ridge.

Silchar.—This station is situated on the left bank of the Barak River, on an alluvial plain, but little elevated above the flood level of the river. Ridges of low forest-clad hills run southwards from the river bank at intervals of six or eight miles; and the intervals are occupied by plains, a great part of which are under water in the rains, and in the dry weather are converted into beels, swamps, and (where cleared of forest) paddy fields. Twenty or thirty miles to the south of the station, the ridges above mentioned run up into the hill country of South Cachar, the mean elevation of which is from 1000 to 2000 feet; and at ten miles to the north of the river are the Naga Hills (an eastern extension of the Garrow and Khasi plateau.) About twenty miles to the eastward the valley is nearly closed by the Burrail Range.

Shillong, on the northern slope of the Khasi Hills, overlooking the valley of Assam. It is but thirty miles north of Cherra Poonji (the rain-fall of which is well-known to be the heaviest anywhere yet recorded); but three ridges of greater elevation intervene; and the rain-fall at Shillong, though frequent, is by no means excessive, amounting only to 91·20 inches on the average of five years. Shillong Hill, one of the highest on the Khasi plateau, is immediately to the south of the station, which lies in a broad valley between the main ridge and one of its spurs. The hills are generally covered with coarse grass, patches of pines being scattered here and there, but not attaining to a very vigorous growth. The hills fall away very gently to the Brahmaputra, which is at a distance of about sixty miles.

Goalparah is on the south bank of the Brahmaputra, near the lower termination of the Assam Valley. The Observatory is situated on a hill close to the station, 249 feet above the river*, and 386 feet above sea-level. It is described as the only open spot about the station. To the south are the Garrow Hills.

Berhampore, one hundred and seventy miles from the sea, on the left bank of the Bhagirati, thirty miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground rises from a short distance to the west of the river, up to the foot of the Rajmehal Hills and the undulating country of Beerbhoom.

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* Above the highest water mark.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the north extremity of the Karakpúr Range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quarstites, and preserving the same mineral characters, they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain ; to the south and the south-east, the rocky and elevated country of Hazareebaugh and the Damin-i-koh, chiefly covered with forest, and of which the Karakpúr Hills form the north-western corner.

Hazareebaugh is situated in the elevated and hilly country south of the Ganges, and between its delta and the valley of the Sôn. To the south of the station the ground falls rapidly to the Damudah; to the north it declines gently to a lower part of the plateau, traversed by the Great Trunk Road, which at Burhee (due north of Hazareebaugh) has an elevation of 1160 feet. The country is undulating or hilly, and much covered with jungle.

Gya.—This station is situated sixty miles south of Patna, on the plain lying to westward of the range which bounds the Hazareebaugh and Parasnath plateau on the west, and at an elevation of about 350 feet above the sea. Since this plateau, having a mean elevation of 1100 to 1300 feet, with hill masses of much greater height, intervenes between the Bay of Bengal and the plain of Gya, and must be traversed by the south-east winds which bring the rains to Behar and the N. W. Provinces. The climate of Gya is hot and dry.

Dehree, on the left bank of the Sôn River, near the crossing of the Great Trunk Road, and within a few miles of Sasseram. The escarpment of the Rewah plateau is about seven miles distant to the south-west. On the south and east, the hill country of Palamow and the Hazareebaugh plateau rise from the alluvial plain to the right of the river, at a distance of about forty miles ; and on the north the alluvial plain of Shahabad extends uninterruptedly to the banks of the Ganges.

Patna, on the south bank of the Ganges, below the confluence of the Sôn, and surrounded by the alluvial plains of these rivers.

Arrah, on the alluvial plain of Shahabad, sixty miles west of Patna and about the same distance N. by E. from Dehree.

Benares, on the north bank of the Ganges, one hundred and eighty miles west of Patna. From the south bank of the river, the alluvium extends to the foot of the Kymore plateau, which intervenes between the valleys of the Ganges and the Sôn. To the north is the flat alluvial plain of Oude.

Roorkee, near the head of the Ganges Canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

Atmospheric Pressure.

The registers of atmospheric pressure have been obtained with the same instruments as were in use during the previous year, except at Jessore, Arrah, Chittagong and Hazareebaugh. The mountain barometers, on Fortin's principle, with narrow tubes, formerly in use at these stations, have been replaced during the year by standard barometers (constructed by Messrs. Casella,) with tubes of 0·4 inch diameter. The readings of these instruments have been recorded from the dates given below:—

Jessore, 1st April 1871.
Akyab, 9th April 1871.
Chittagong, 16th April 1871.
Hazareebaugh, 10th May 1871.

These barometers had been compared with a standard both in London and Calcutta, and their errors to the Kew, Greenwich and Calcutta local standards, thus determined with great care. It is to be expected that owing to the larger size of tubes, they will shew a small apparent increase of the tidal range at those stations at which they have been brought into use. Similar instruments were supplied to Patna, Monghyr and Berhampore shortly before the end of the year, (to be brought into use at the beginning of the current year) and it is intended to supply barometers of the same kind to the remaining stations as soon as possible, in order that the several registers of daily range may be rendered rigorously comparable.

At the two new stations, Dehree and Arrah, the registers have been obtained with aneroids, the correction of which to the Calcutta standard was obtained by comparing them, at the stations themselves, with two portable mercurial barometers in December 1870.

I have lately learned from Mr. J. Elliott, the Officiating Meteorological Reporter for the N. W. P., that the error of the Roorkee barometer is —·025 and that of the Benares barometer +·014 instead of —·033 and +·024 as given in the Report for 1870. The readings of the Monghyr barometer since 14th May 1869 have also be given ·024 too low. The corresponding corrections have been employed in the present report, and the following corrections must be applied to the barometric tables for the three years 1868-70, already published:—

Benares, 1868 and 1869	...	—·014
„ 1870	...	+·010
Roorkee, 1868 and 1869	...	+·018
„ 1870	...	—·035
Monghyr, June 1869 to Dec. 1870		+·024

As in previous reports, all the barometric readings are corrected to those of the Calcutta standard (Newman's No. 86) at the Surveyor-General's Office. It has lately been ascertained* that this instruments reads ·011 higher than

* *See* Journal of the Asiatic Society of Bengal, Vol. XL., Part II., p. 446.

the Kew standard, and ·015 higher than the Greenwich standard barometer. I have some reason to doubt the correctness of the False Point barometer, which appears to read somewhat too high. It will shortly be reverified, and the registers are now given as provisional, and possibly subject to correction.

The mean of the observations at 4h, 10h, 16h, and 22h, is taken as the mean of the day, except in the cases of Madras, Dehree and Arrah. For these stations I have no night observations, and accordingly the mean of 10h. and 16h. is assumed as the mean of the day. The registers of Gya and Shillong alone are somewhat imperfect.

In Table III the mean pressures from the first column of Table II are reduced to sea-level for the mean temperatures of Table VI. In the case of stations below 500 feet elevation, the table given in Mr. Buchan's Handy Book of Meteorology (Table IV) has been used for the purpose; and in that of stations above 500 feet, Dippe's tables computed with Laplace's formula, given in Guyot's Hypsometrical Tables, 58.

In Table IV is given the mean average pressure of each month at several stations. This has been obtained from the registers of the past five years, after applying all the corrections that have been ascertained since the publication of the earlier reports; and such also as have been necessitated by changing the elevation of the barometers. As a test of the approximation of these results to the averages of a long period, the means obtained from the hourly obsertions of sixteen years for Calcutta and of twenty years for Madras are also given. In the case of Calcutta it is probable that the difference of the two series is really less than appears from the table, and that the mean values of the years 1853 to 1866 have been vitiated by the condition of the barometer* noticed in a previous report. In the case of Madras it must be borne in mind that while the five years mean is that of 10h. and 16h. observations only, the twenty years' mean is that of hourly observations.

* *See* Report for 1868, p. 26.

Barometric Mean Monthly Pressures for 1871.

MADRAS.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·966*		30·025	29·907		·118
February	29·935*		29·998	29·872		·126
March	29·912*		29·977	29·848		·129
April	29·829*		29·894	29·764		·130
May	29·741*		29·799	29·683		·116
June	29·675*		29·735	29·615		·120
July	29·711*		29·767	29·656		·111
August	29·745*		29·803	29·687		·116
September	29·748*		29·813	29·684		·129
October	29·831*		29·883	29·779		·104
November	29·915*		29·964	29·866		·098
December	29·993*		30·047	29·940		·107

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·970	29·929	30 038	29·921	29·991	·117
February	29·914	29·880	29 991	29·853	29 932	·138
March	29·877	29·845	29·941	29·823	29·898	·118
April	29·798	29·769	29·860	29·742	29·821	·118
May	29·686	29·671	29·743	29·628	29·702	·115
June	29·564	29·542	29 608	29·513	29·592	·095
July	29·582	29·563	29·627	29·532	29·607	·095
August	29·657	29·638	29·705	29·605	29 679	·100
September	29·670	29·647	29·723	29·612	29·700	·111
October	29·807	29·780	29·858	29·758	29·832	·101
November	29·938	29·910	29·996	29·889	29·959	·107
December	30·008	29·975	30·068	29·954	30·035	·114

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·950	29·929	30·010	29·897	29·965	·113
February	29·919	29·897	29·985	29·863	29·930	·122
March	29·897	29·873	29·964	29·841	29·910	·123
April	29·845	29·826	29·904	29·791	29·859	·113
May	29.745	29·743	29·780	29·683	29·773	·097
June	29·647	29·620	29·683	29·607	29·679	·076
July	29·671	29·652	29·704	29·627	29·703	·077
August	29·704	29·684	29·745	29·651	29·737	·094
September	29·750	29·729	29·799	29·690	29·783	·109
October	29·817	29·794	29·867	29·765	29·842	·102
November	29·942	29·929	29·992	29·885	29·961	·107
December	30·021	29·997	30·080	29·965	30·042	·115

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·033	30·018	30·080	29·985	30·047	·095
February	29·966	29·951	30·024	29·915	29·973	·109
March	29·913	29·893	29·970	29·860	29·928	·110
April	29·828	29·805	29·888	29·775	29·844	·113
May	29·723	29·709	29·767	29·671	29·745	·096
June	29·575	29·555	29·611	29·528	29·606	·083
July	29·600	29·580	29·629	29·562	29·630	·067
August	29·668	29·644	29·703	29·627	29·698	·076
September	29·718	29·693	29·756	29·675	29·748	·081
October	29·856	29·839	29·896	29·816	29·874	·080
November	30·007	30·001	30·055	29·959	30·015	·096
December	30·092	30·082	30·137	30·049	30·102	·088

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·932	29·897	30·008	29·869	29 954	·139
February	29·862	29·834	29·936	29·797	29·880	·139
March	29·806	29·781	29·881	29·738	29·823	·143
April	29·701	29·682	29·766	29·637	29·719	·129
May	29·620	29·622	29 663	29·549	29·648	·114
June	29·488	29·479	29·523	29·429	29·520	·094
July	29·518	29·508	29·552	29·463	29·550	·089
August	29·589	29·575	29·625	29 534	29·624	·091
September	29·622	29·603	29·666	29·568	29·653	·098
October	29·764	29·745	29·816	29·708	29·786	·108
November	29·901	29·887	29·954	29·838	29·925	·116
December	29·979	29·956	30·046	29·910	30·006	·136

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·997	29·963	30·070	29·942	30·013	·128
February	29·925	29·895	29·997	29·872	29·937	·125
March	29·866	29·833	29·932	29·816	29·883	·116
April	29·794	29·762	29·850	29·742	29·821	·108
May	29·692	29·680	29·741	29·634	29·714	·107
June	29·534	29·518	29·567	26·487	29·563	·080
July	29·564	29·549	29·596	29.517	29·594	·079
August	29·616	29·591	29·657	29·565	29·650	·092
September	29·687	29·669	29·736	29·629	29·714	·107
October	29·814	29·790	29·860	29·767	29·838	·093
November	29·972	29·954	30·033	29·916	29·986	·117
December	30·057	30·025	30·122	30·002	30·078	·120

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·884	29·850	29·949	29·831	29·907	·118
February	29·839	29·813	29·903	29·789	29·852	·114
March	29·815	29·777	29·884	29·765	29·835	·119
April	29·752	29·712	29·813	29·719	29·766	·094
May	29·649	29·612	29·704	29·602	29·677	·102
June	29·524	29·489	29·567	29·484	29·556	·083
July	29·562	29·541	29·599	29·517	29·591	·082
August	29·598	29·565	29·641	29·549	29·636	·092
September	29·668	29·651	29·716	29·607	29·699	·109
October	29·747	29·726	29·796	29·692	29·774	·104
November	29·881	29·854	29·940	29·834	29·896	·106
December	29·966	29·928	30·024	29·919	29·993	·105

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·987	29·956	30·061	29·931	29·998	·130
February	29·908	29·882	29·983	29·853	29·916	·130
March	29·850	29·818	29·922	29·796	29·864	·126
April	29·771	29·745	29·840	29·714	29·787	·126
May	29·677	29·665	29·730	29·614	29·699	·116
June	29·522	29·502	29·563	29·469	29·553	·094
July	29·551	29·536	29·587	29·500	29·581	·087
August	29·603	29·580	29·645	29·550	29·637	·095
September	29·676	29·656	29·726	29·620	29·704	·106
October	29·805	29·780	29·861	29·755	29·824	·106
November	29·954	29·934	30·019	29·896	29·997	·123
December	30·046	30·017	30·117	29·989	30·061	·128

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·965	29·940	30·032	29·908	29·980	·124
February	29·891	29·873	29·958	29·834	29·899	·124
March	29·835	29·812	29·900	29 780	29·850	·120
April	29·767	29·747	29·829	29·712	29 782	·117
May	29·674	29·668	29·721	29·611	29·697	·110
June	29·523	29·504	29·564	29·471	29·554	·093
July	29·550	29·534	29·586	29 495	29·585	·091
August	29·600	29 574	29·640	29·545	29·642	·095
September	29·677	29 651	29·727	29·618	29·712	·109
October	29·793	29·765	29·845	29·742	29·822	·103
November	29·938	29·916	29·997	29·880	29·958	·117
December	30·036	30·016	30·093	29·977	30·058	·116

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·959	29·932	30·028	29·898	29 979	·130
February	29·886	29·864	29·958	29·825	29·897	·133
March	29·856	29 809	29 910	29·777	29 849	·133
April	29·770	29 754	29·842	29·711	29 773	·131
May	29·676	29·664	29·732	29·610	29·697	·122
June	29·524	29·511	29·564	29·469	29·553	·095
July	29·567	29·552	29·605	29·510	29·603	·095
August	29·611	29·593	29·642	29·554	29·648	·095
September	29·685	29·668	29·736	29 621	29·714	·115
October	29·787	29·763	29·840	29·734	29·810	·106
November	29·930	29·915	29·988	29·870	29·949	·118
December	30 022	29·996	30·081	29·965	30·046	·116

CACHAR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·905	29·892	29·969	29·835	29·924	·134
February	29·850	29·842	29·915	29·782	29·862	·133
March	29·806	29·791	29·885	29·737	29·810	·148
April	29·751	29·740	29·815	29·685	29·763	·130
May	29·641	29·630	29·699	29·577	29·658	·122
June	29·520	29·523	29·567	29·443	29·546	·124
July	29·562	29·561	29·613	29·492	29·583	·121
August	29·595	29·593	29·647	29·523	29·616	·124
September	29·671	29·673	29·724	29·599	29·688	·125
October	29·761	29·763	29·816	29·693	29·773	·123
November	29·892	29·885	29·960	29·826	29·899	·134
December	29·985	29·969	30·054	29·921	29·998	·133

All the means have been corrected to the elevation, (73 ft.), at which the barometer was placed during the first half of the year.

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	27·949	27·919	28·007	27·898	27·972	·109
February	27·887	27·860	27·945	27·831	27·912	·114
March	27·840	27·809	27·903	27·785	27·863	·118
April	27·745	27·732	27·793	27·690	27·766	·103
May	27·693	27·680	27·753	27·630	27·709	·123
June	27·538	27·524	27·574	27·487	27·567	·087
July	27·553	27·539	27·584	27·508	27·582	·076
August	27·627	27·606	27·664	27·586	27·654	·078
September	27·665	27·647	27·709	27·610	27·694	·099
October	27·825	27·806	27·868	27·785	27·841	·083
November	27·943	27·923	27·990	27·903	27·957	·087
December	28·003	27·980	28·054	27·959	28·020	·095

BERHAMPORE.

	Mean.	4h.	10h.	16th.	22h.	Range.
January	29·923	29·915	29·991	29·851	29·934	·140
February	29·841	29·831	29·911	29·768	29·855	·143
March	29·776	29·772	29·843	29·702	29·788	·141
April	29·690	29·688	29·758	29·614	29 699	·144
May	29·612	29·601	29·672	29·542	29·635	·130
June	29·453	29·438	29·502	29·388	29·484	·114
July	29·478	29·460	29·532	29·413	29·505	·119
August	29·537	29·523	29·586	29·474	29·564	·112
September	29·613	29·605	29·668	29·540	29 639	·128
October	29·742	29·728	29 797	29·683	29·760	·114
November	29·877	29·864	29·944	29·816	29 884	·128
December	29·989	29·967	30·058	29·928	30·002	·130

GYA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January						
February						
March	29·479	29.446	29·560	29·420	29·494	·140
April			Barometer broken.			
May			Dit to.			
June	29·136	29·101	29·201	29·082	29·159	·119
July	29·187	29·169	29.233	29·129	29 219	·104
August	29·275	29·252	29·323	29·222	29 303	·101
September	29·321	29·302	29·376	29·257	29·350	·119
October	29·504	29·479	29·566	29·453	29·518	·113
November	29·607	29·577	29·671	29·546	29·633	·125
December	29·682	29·652	29·749	29·627	29·701	·122

ARRAH.

	Mean.	10h.	16h.	Range.
January	29·789	29·845	29·734	·111
February	29·709	29·764	29·654	·110
March	29·612	29 679	29·545	·134
April	29·510	29·571	29·449	·122
May	29·435	29·496	29·375	·121
June	29·249	29·305	29·194	·111
July	29·289	29·336	29·243	·093
August	29·373	29·419	29·328	·091
September	29·426	29·482	29·370	·112
October	29·605	29·652	29·559	·093
November	29·757	29·806	29·708	·098
December	29·886	29·939	29·834	·105

DEHREE.

	Mean.	10h.	16h.	Range.
January	29·676	29·744	29·608	·136
February	29·570	29·625	29 515	·110
March	29·486	29·548	29·424	·124
April	29·322	29·391	29·253	·138
May	29·279	29·333	29·225	·108
June	29·135	29·160	29·110	·050
July	29·122	29·164	29·080	·084
August	29·208	29·257	29·159	·098
September	29·246	29·301	29·191	·110
October	29·423	29·476	29·371	·105
November	29·593	29·648	29·538	·110
December	29·706	29·760	29·652	·108

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·837	29·808	29·906	29·781	29·853	·125
February	29 752	29·723	29·821	29·702	29·761	·119
March	29·676	29 656	29·746	29·613	29·690	·133
April	29·574	29·549	29 645	29·505	29·596	·140
May	29·491	29·469	29·559	29·421	29·514	·138
June	29·313	29·278	29·373	29 254	29·346	·119
July	29·360	29·345	29·401	29·310	29·385	·091
August	29·433	29·410	29·485	29·382	29·455	·103
September	29·478	29·454	29·535	29·416	29·507	·119
October	29·646	29·619	29·705	29·597	29·664	·108
November	29 773	29 740	29·838	29·719	29·795	·119
December	29·872	29·844	29·932	29·815	29·898	·117

All the means have been corrected to the elevation of 179 ft., at which the barometer was subsequently to the 15th February.

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·833	29·807	29·904	29·771	29·851	·133
February	29 748	29·726	29·815	29·692	29·759	·123
March	29·694	29·674	29·767	29·628	29·708	·139
April	29·604	29 587	29·675	29·535	29·619	·140
May	29·530	29·537	29·586	29·453	29·546	·133
June	29·368	29·366	29·411	29·295	29·400	·116
July	29·389	29·380	29·428	29·327	29·422	·101
August	29·460	29·445	29·501	29·403	29·493	·098
September	29·520	29 506	29·571	29·454	29·549	·117
October	29·659	29·647	29·713	29·605	29·672	·108
November	29·802	29·792	29·856	29·740	29·819	·116
December	29 907	29·884	29·976	29·850	29·917	·126

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	23·371	23·357	23·392	23·346	23·390	·046
February	23·357	23·339	23·382	23·336	23·371	·046
March	23·337	23·317	23·356	23·319	23·356	·037
April	23·342	23·321	23·371	23·320	23·356	·051
May	23·309	23·283	23·337	23·294	23·321	·043
June	23·242	23·223	23·265	23·227	23·254	·038
July	23·243	23·219	23·266	23·232	23·256	·034
August	23·285	23·264	23·306	23·271	23·300	·035
September	23·346	23·325	23·367	23·333	23·359	·034
October	23·398	23·383	23·414	23·381	23·416	·033
November	23·416	23·400	23·438	23·399	23·429	·039
December	23·426	23·412	23·443	23·406	23·445	·037

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·559	29·555	29·617	29·491	29·575	·126
February	29·500	29·502	29·558	29·433	29·507	·125
March	29·455	29·466	29·506	29·380	29·467	·126
April	29·393	29·390	29·460	29·317	29·407	·143
May	29·309	29·311	29·370	29·233	29·321	·137
June	29·163	29·164	29·203	29·103	29·183	·100
July	29·186	29·186	29·227	29·125	29·205	·102
August	29·239	29·221	29·276	29·176	29·246	·100
September	29·307	29·298	29·368	29·239	29·323	·129
October	29·411	29·409	29·465	29·343	29·426	·122
November	29·545	29·554	29·595	29·477	29·553	·118
December	29·625	29·622	29·677	29·568	29·635	·109

SHILLONG.

	Mean.	4h.	10h.	16h,	22h.	Range.
January	25·273	25·260	25·316	25·226	25·291	·090
February	25·251	25·231	25·300	25·202	25·272	·098
March	25·234	25·208	25·281	25·187	25·260	·094
April	25·217	.....	25·265	25·170	.....	·095
May		Untrustworthy.				
June	25·069	25·060	25·096	25·037	25·085	·059
July	25·080	25·072	25·110	25·038	25·101	·072
August	25·118	25·108	25·150	25·073	25·142	·077
September	25·185	25·174	25·224	25·141	25·202	·083
October	25·259	25·246	25·303	25·213	25·274	·090
November	25·331	25·320	25·375	25·287	25·344	·088
December	25·369	25·355	25·407	25·326	25·387	·081

BENARES.

	Means.	4h.	10h.	16h.	22h.	Range.
January	29·768	29·741	29·834	29·728	29·771	·106
February	29·681	29·659	29·746	29·640	29·679	·106
March	29·605	29·584	29·671	29·562	29·604	·109
April	29·509	29·501	29·568	29·457	29·509	·111
May	29 424	29·416	29·482	29·368	29·431	·114
June	29·263	29·262	29·304	29·209	29·276	·095
July	29 287	29·288	29·325	29·242	29·294	·083
August	29·367	29·350	29·408	29·327	29·384	·081
September	29·403	29·397	29·446	29·352	29·418	·094
October	29·588	29·567	29·641	29·544	29 601	·097
November	29 731	29·713	29·796	29 682	29·732	·114
December	29·818	29·790	29·882	29·774	29·825	·108

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·122	29·098	29·172	29·094	29·126	·078
February	29·038	29·016	29·086	29·004	29·047	·082
March	28·970	28·948	29·018	28·935	28·980	·083
April	28·878	28·857	28·933	28·848	28·874	·085
May	28·788	28·775	28·852	28·754	28·771	·098
June	28·649	28·642	28·700	28·612	28·613	·088
July	28·656	28·635	28·695	28·634	28·660	·061
August	28·723	28·702	28·775	28·699	28·717	·076
September	28·812	28·816	28·861	28·759	28·812	·102
October	28·951	28·935	29·003	28·914	28·951	·089
November	29·090	29·060	29·151	29·059	29·089	·092
December	29·170	29·151	29·220	29·139	29·169	·081

Table III.—Barometric monthly means for 1871, reduced to sea-level.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Madras ...	29·994	29·963	29·940	29·856	29·768	29·702	29·738	29·772	29·776	29·859	29·943	30·021	29·861
Vizagapatam ...	30·002	·946	·909	·830	·717	·595	·614	·688	·702	·839	·970	·040	·821
Akyab ...	29·972	·941	·919	·867	·767	·669	·693	·726	·772	·839	·964	·043	·848
False Point ...	30·052	·985	·932	·847	·742	·594	·619	·687	·737	·875	30·027	·112	·851
Cuttack ...	·016	·946	·889	·783	·702	·570	·600	·672	·705	·847	29·984	·063	·815
Saugor Island ...	·003	·931	·872	·800	·698	·540	·570	·622	·693	·820	·978	·063	·799
Chittagong ...	29·979	·933	·909	·845	·742	·617	·655	·691	·761	·840	·975	·061	·834
Calcutta ...	30·006	·927	·869	·790	·696	·541	·560	·622	·695	·824	·973	·065	·797
Jessore ...	29·986	·912	·856	·788	·695	·544	·571	·621	·698	·814	·959	·058	·792
Dacca ...	·996	·928	·871	·803	·710	·559	·586	·636	·713	·829	·975	·059	·805
Cachar ...	·982	·927	·882	·827	·716	·595	·637	·670	·746	·836	·968	·062	·821
Hazareebaugh ...	30·016	·919	·838	·705	·655	·497	·525	·606	·646	·825	·975	·070	·773
Berhampore ...	29·995	·912	·847	·760	·682	·523	·548	·607	·683	·812	·948	·058	·781
Gya ...	.....	.....	·820	.....	.....	·467	·522	·609	·657	·843	·953	·034	.....
Dehree ...	30·053	·944	·850	·680	·637	·474	·482	·568	·606	·787	·965	·109	·763
Arrah ...	29·995	·913	·814	·705	·632	·443	·485	·573	·621	·804	·959	·091	·753
Patna ...	30·019	·940	·862	·759	·672	·491	·540	·614	·660	·829	·961	·062	·784
Monghyr ...	·003	·916	·856	·767	·691	·527	·549	·621	·682	·822	·969	·077	·790
Darjeeling ...	·047	·991	·932	·821	·735	·582	·588	·640	·747	·855	30·015	·114	·839
Goalparah ...	29·963	·899	·852	·786	·699	·549	·572	·626	·696	·802	29·943	·029	·785
Shillong ...	30·000	·933	·867	·799	.....	·578	·596	·638	·733	·862	30·020	·130	.....
Benares ...	·048	·956	·875	·772	·685	·523	·549	·630	·670	·854	·004	·096	·805
Roorkee ...	·060	·957	·875	·759	·662	·518	·530	·600	·691	·846	·009	·107	·801
Jabalpúr ...	·033	·969	·882	·765	·655	·494	·533	·624	·625	·889	·016	·044	·794
Nagpúr ...	·071	·963	·871	·740	·701	·540	·594	·668	·673	·849	29·946	·022	·803

Table IV.—Monthly barometric means of several stations.

Deduced from the registers of the 5 *years* 1867-71.

	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.
Port Blair ...	2-3	29·719	29·715	29·674	29·630	29·568	29·563	29·574	29·574	29·606	29·639	29·689	29·720
Madras ...	4	·967	·943	·898	·808	·720	·671	·706	·734	·754	·827	·925	·978
Ditto ...	20	·995	·963	·903	·823	·732	·699	·715	·744	·777	·849	·931	·976
Akyab ...	4-5	·995	·929	·896	·840	·753	·689	·693	·711	·760	·845	·951	30·015
Cuttack ...	4-5	·985	·897	·822	·708	·620	·549	·547	·594	·662	·821	·960	·014
Saugor Island ...	5	30·021	·942	·879	·784	·680	·557	·547	·590	·666	·827	·976	·041
Calcutta ...	5	·021	·945	·869	·774	·667	·552	·551	·610	·679	·840	·982	·042
Ditto ...	16	·022	·949	·862	·760	·653	·543	·540	·590	·678	·830	·969	·031
Chittagong ...	5	29·908	·851	·788	·726	·642	·537	·537	·572	·634	·755	·879	29·933
Jessore ...	4-5	·994	·922	·850	·753	·666	·537	·534	·599	·674	·832	·967	30·026
Dacca ...	3-5	·979	·921	·845	·777	·678	·559	·558	·596	·678	·817	·952	·010
Hazareebaugh ...	4-5	27·966	27·906	27·851	27·765	27·672	27·558	27·553	27·617	27·677	27·848	27·963	28·005
Berhampore ...	4	29·948	29·876	29·790	29·676	29·568	29.442	29·467	29·541	29·624	29·769	29·908	29·975
Patna ...	3-5	·849	·781	·687	·578	·476	.349	·361	·431	·511	·694	·857	·886
Monghyr ...	3-4	·860	·775	·686	·587	·493	.367	·376	·442	·516	·686	·832	·900
Darjeeling ...	3-5	23·344	23·322	23·311	23·326	23·273	23·228	23·224	23·261	23·322	23 391	23·424	23·409
Benares ...	5	29·813	29·727	29·644	29·528	29·388	29·273	29·273	29·347	29·413	29·606	29·764	29·820
Roorkee ...	5	·125	·048	28·985	28·878	28·747	28·632	28·638	28·695	28·792	28 960	·104	·154
Agra ...	4	·509	·437	29·358	29·243	29·098	·982	·931	29·035	29·133	29·321	·477	·522
Nagpúr ...	3	28·947	28·896	28·808	28·702	28·625	·528	·538	28·616	28·642	28·794	28·939	28·983
Jabalpúr ...	3	·611	·603	·525	·429	·324	·205	·206	·280	·309	·481	·622	·646

Table V.—Comparison of barometric means of 1871, with the averages of Table IV.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Madras	—·001	—·008	+·014	+·021	+·021	+·004	+·005	+·011	—·006	+·004	—·010	+·015
Akyab	—.045	—·010	+·001	+·005	—·008	—·042	—·022	—·007	—·010	—·028	—·009	+·006
Cuttack	—·053	—·035	—·016	—·007	0	—·061	—·029	—·005	—·040	—·057	—·059	—·035
Saugor Island ...	—·024	—·017	—·013	+·010	+·012	—·023	—·017	+·026	+·021	—·013	—·004	+·016
Chittagong ...	—·024	—·012	+·027	+.026	+·007	—·008	+·025	+·026	+·034	—·008	+·002	+·033
Calcutta	—·034	—·037	—·019	—·003	+·010	—·030	0	—·007	—·003	—·035	—·028	+·004
Jessore	—·029	—·031	—·015	+·014	+·008	—·014	+·016	+·001	+·003	—·039	—·029	+·010
Dacca	—·020	—·035	—·009	—·007	—·002	—·035	+·009	+·015	+·007	—·030	—·022	+·012
Hazareebaugh ...	—·017	—·019	—·011	—·020	+·021	—·020	0	+·010	—·012	—·023	—·020	+·028
Berhampore ...	—·025	—·035	—·014	+·014	+·044	+·011	+·011	—·004	—·011	—·027	—·031	+·014
Patna	—·012	—·026	—·011	—·004	+·015	—·036	—·001	+·002	—·033	—·048	—·084	—·014
Monghyr	—·027	—·027	+·008	+·017	+·037	+·001	+·013	+·018	+·004	—·027	—·030	+·007
Darjeeling	+·014	+·022	+·013	+·003	+·023	+·001	+·006	+·011	+·011	—·006	—·021	+·017
Benares	—·045	—·046	—·039	—·019	+·036	—·010	+·014	+·020	—·010	—·018	—·033	—·002
Roorkee	—·028	—·035	—·040	—·025	+·016	—·008	—·007	+·003	—·005	—·034	—·039	—·009
Jabalpúr	+·014	—·025	—.010	+·001	+·006	—·042	—·017	—·006	—·030	+·043	+·010	0
Nágpúr	+·058	+·019	+·034	+·028	+·069	—·003	+·029	+·021	+·004	+·021	—·038	—·017

In the report for last year, I gave a sketch of the distribution of atmospheric pressure over Bengal, and on the coasts of the Bay. Since writing this I have received from Dr. Townshend and Mr. Elliott certain additional data for Central India and the Upper Provinces, which enable me to extend this survey to the greater part of Northern India.

Beginning with October, the month in which the south-west monsoon terminates, and is succeeded in Bengal by gentle land winds blowing from the Upper Provinces, the pressure is pretty uniform over Central, Northern, and Eastern India. In the following months it rises rapidly over the entire area, but most so on the elevated tract that lies to the south of the Ganges, and includes Chutia Nágpúr, Bundelcund, and a part of Nágpúr. The station of Benares is also included in this tract. On the Gangetic plains to the north, on the flats of the Gangetic delta and of the Orissa coast lying east and south-east, and on the Malwa plateau to the west, the pressure appears to be, as a rule, sensibly lower; but the area of high pressure extends to the south-east, so as to include Cuttack, where the barometer in the cold weather months generally ranges above that of Calcutta and the delta stations. Another and in a great measure distinct area of high pressure appears in the Upper Panjâb, coinciding with the locus of lowest mean winter temperature, and the pressure declines gradually down the whole course of the Ganges Valley. In December the general pressure is at its annual maximum, and in January it is nearly as high.

It is probable that the fall of pressure with the approach of the hot weather is less rapid in the Punjab than in the Central Provinces and Bengal. In March, April, and May the minimum pressure is about Nágpúr, and in the hill-country about Hazareebaugh it is lower than either on the delta and coast to the east and south-east, or in the Upper Provinces to west and north-west. In June the setting in of the south-west monsoon is accompanied by a general sudden fall of pressure; greater, however, in the Panjáb than in the Nágpúr region, so that the locus of minimum pressure is probably transferred to the former.* In June and July, the pressure is nearly the same, and is the minimum of the year. During the continuance of rains the pressure rises but gradually; but in October the close of the monsoon is marked by a more rapid rise, and in such a measure that the pressure is nearly equalized over the whole region.

In 1871 the atmospheric pressure was generally below the average in the first three months of the year, except at Nágpúr and Darjeeling, and in March at Madras, Chittagong and Monghyr. In April it remained lower than usual at Hazareebaugh, Benares, and Roorkee, while the relative excess was maintained at the stations above mentioned, and was extended to Saugor Island, Jessore, and

* The registers of the Panjâb stations are, unfortunately, too ambiguous to afford evidence on this point, since it appears from Dr. Neil's reports that they are obtained partly from aneroid readings, partly from those of mercurial barometers, and while the latter have been compared only with a local standard, the error of which is unknown, and with eadings uncorrected for temperature, the latter are also uncorrected for temperature, and the elevations of the barometers are not given.

Berhampore. In May it was generally above the average, and most so at Berhampore, Monghyr, Nágpúr, and Benares. In June the pressure again fell below the average, except at Madras, Berhampore, Monghyr, and Darjeeling, and was especially low at Jabalpúr, Cuttack, Akyab, and Dacca. During the south-west monsoon the pressure remained lower than usual at the first three of the stations last mentioned; above the mean at Chittagong, Dacca, Jessore, Monghyr, Darjeeling, and Nágpúr; also during the earlier part at Berhampore, and the latter part at Saugor Island. In October the barometer was below the mean everywhere in Bengal and Behar, but above it at Nágpúr and Jabalpúr, and the depression lasted during November when Nágpúr also was affected. In December the pressure was generally above the average, Cuttack, Nágpúr, Jabalpúr, Patna, Benares, and Roorkee being the only exceptions.

The actual distribution and changes of S. L. pressure in 1871 were as follow:—In January it was highest at Nágpúr, and but little lower at Roorkee. At Benares, where in this month it usually exceeds all the stations enumerated in the table, it was considerably less than at either of the above, so that the barometric depression that usually exists over the lower Gangetic plain was more marked and extensive than usual. In February, however, there was a considerable fall at Nágpúr, and in March the pressure over the whole of Northern India below the Himalaya fell below that of the stations on the Coromandel and Arakan coasts, a change which does not usually occur till the following month. In April and May the lowest pressure was over Hazareebaugh, and the lower part of the Sôn valley, when it ranged considerably below that of Nágpúr. In the latter month, the barometer at Jabalpúr also fell below that of Nágpúr, a state of things which usually commences with the setting in of the rains in June. Generally, therefore, it may be said that those changes in the distribution of pressure which gradually lead up to and usher in the monsoon rains, and are not improbably in part the determining cause of this phenomenon, occurred at earlier periods in 1871 than in the ordinary course. In June the lowest pressure was apparently at Arrah and Gya: the S. L. pressure ranged below 29·5 at Hazareebaugh, over the lower part of the Sôn valley and Jabalpúr; possibly, also, over the intervening region of the Rewah and the Upper Sôn, but data are wanting for this tract. In July and August the rise of pressure at Nágpúr and Jabalpúr was relatively greater than at most other stations in Upper and Central India, and for the first time the S. L. pressure at both these stations rose above that of Roorkee. In these two months Arrah and Dehree alone ranged below Roorkee. These stations mark the locus of the greatest depression in an area of low pressure which embraced the whole of the Gangetic plain (and probably the Panjab) with the country to the south as far as the Sátpúra range. In September the pressure rose everywhere except at Nágpúr and Jabalpúr. At Arrah and Dehree it was thus brought up to an equality with Jabalpúr, and at Roorkee considerably above this station. In October, however, the Jabalpúr pressure rose above that of all other stations in the table, and it so remained in November, with the somewhat doubtful exceptions of the hill-stations and False Point. Finally, in

December, Roorkee and Dehree, with the hill-stations Darjeeling and Shillong, attained the highest pressure, while the lowest was at Goalpara and Nágpúr in Bengal and Central India, and at Madras to the southward.

Temperature of Air.

During the past year the temperature of the air has been observed under the conditions described in report for 1869. At all stations, under the superintendence of the department, except Akyab, Darjeeling, Saugor Island, and False Point, the thermometers are exposed under a thatched shed, open all round. At Akyab they are placed in the Telegraph Office, an open, airy room in a wooden building with a through draft, but offering less complete exposure than the usual thermometer shed. At Saugor Island they are suspended on the piles that support the Telegraph Officer's quarters, and are freely exposed. At Benares they are placed on a stand of the pattern figured in Colonel James' Book of Instructions. With respect to other stations which contribute registers, I have no exact information.

The precautions taken to correct the errors of the instruments have been detailed in the reports for 1870, and previous years. All corrections thus determined have been applied in the tables that follow, and faulty instruments have been lately replaced by others furnished with the Kew corrections.

The mean of the four periods of observation is adopted as the mean temperature of the day of all stations at which six-hourly readings have been registered. At Port Blair the mean of the minimum and 16h. temperatures is so taken, and at Madras, from which the 10h. and 16h. observations only are received, the corrections determined by M. Dove have been applied to these readings. Means obtained by the former method are indicated by an (*), those by the latter method by a (†).

In Table VII, the mean temperatures of Table VI are reduced to their sea level values by adding 1° for each 350 feet of elevation. I have added the mean temperatures of six stations in Ceylon, and nine in the Central Provinces, in order to show the distribution of temperature over as wide an area as possible.

In Table VIII, the mean temperatures of several stations are given, as deduced from the observations of the last four years. Those of Madras and Calcutta obtained from the hourly observations of longer periods, are also given for comparison.

Table IX. gives the differences between the monthly mean temperatures of 1871 and the corresponding values of the preceding table.

Table VI.—Maximum, minimum, and mean monthly temperatures for 1871.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	78·6*	...	81·3	82·6	...	84·1	9·5	74·6	30th	88·0	18·0	28th	70·0
February	80·6*	...	82·6	86·2	...	87·0	12·0	75·0	27th	91·0	21·0	8th	70·0
March	82·7*	...	86·2	88·9	...	90·7	14·2	76·5	29th	94·0	23·0	8th	71·0
April ...	84·8*	...	89·6	90·2	...	93·4	13·9	79·5	30th	96·0	19·0	24th	77·0
May ...	81·0*	...	84·7	84·8	...	88·1	10·8	77·3	1st & 2nd	96·0	21·0	17th	75·0
June ...	81·6*	...	84·6	85·0	...	86·6	8·3	78·3	29th & 30th	89·0	14·0	19th & 20th	75·0
July ...	80·3*	...	83·0	84·0	...	84·3	7·7	76·6	8th	88·0	15·0	27th	73·0
August	80·8*	...	83·6	84·2	...	84·8	7·3	77·5	13th	88·0	14·0	27th	74·0
Sept. ...	79·5*	...	82·4	83·1	...	84·0	8·0	76·0	24th & 25th	88·0	14·0	19th & 20th	74·0
October	80·4*	...	83·5	84·5	...	85·2	8·9	76·3	19th	88·0	14·0	25th	74·0
Nov. ...	80·7*	...	84·6	85·4	...	86·0	9·9	76·1	3rd	90·0	18·0	23rd & 24th	72·0
Dec. ...	79·9*	...	83·0	84·1	...	85·7	10·0	75·7	29th	89·0	19·0	25th	70·0

MADRAS.

	Mean.	10h.	16h.
January	77·3†	80·8	80·5
February	79·6†	83·2	83·3
March	83·1†	85·5	85·8
April	85·5†	90·2	87·6
May	88·5†	93·3	89·9
June	88·0†	91·5	90·4
July	85·8†	87·4	89·5
August	87·6†	88·7	90·1
September	85·0†	86·9	87·9
October	81·9†	84·6	84·5
November	77·7†	80·9	80·5
December	78·6†	81·9	81·1

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	75·9	72·8	76·4	79·1	75·4	79·7	7·7	72·0	3rd	82·7	15·0	24th	67·7
February	79·3	76·3	79·7	82·5	78·5	82·9	7·6	75·3	24th & 25th	88·5	18·5	12th	70·0
March...	83·8	81·0	84·3	86·7	83·2	87·7	7·6	80·1	14th	93·5	17·5	9th	76·0
April ...	86·1	83·8	87·5	87·5	85·4	88·6	5·5	83·1	11th	92·5	13·1	16th	79·4
May ...	87·7	85·7	88·6	89·3	87·0	90·3	5·1	85·2	18th	96·8	15·2	12th	81·6
June ...	87·3	85·5	88·0	88·9	86·8	89·8	5·0	84·8	12th	94·9	14·4	23rd	80·5
July ...	85·2	83·9	85·1	86·8	84·9	87·2	4·1	83·1	7th	92·7	13·2	20th	79·5
August	86·4	84·8	87·1	88·0	85·9	88·5	4·2	84·3	5th	92·5	11·0	10th	81·5
Sept. ...	85·6	84·1	86·0	87·2	85·1	87·8	4·1	83·7	12th	92·5	11·5	24th	81·0
October	86·0	83·7	86·7	88·2	85·3	88·9	5·9	83·0	8th & 9th	92·0	14·9	31st	77·1
Nov. ..	82·2	80 0	83·0	84·1	81·7	84·9	5·7	79·2	3rd	87·7	12·7	30th	75·0
Dec. ...	78·9	76·0	79·7	81·4	78·5	82·1	7·0	75·1	8th	83·7	12·7	31st	71·0

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	71·5	66·8	69·9	77·9	71·5	78·4			19th	82·6			
February	75·4	70·6	74·4	81·5	75·2	82·2			25th	87·6			
March...	79·1	74·5	78·6	84·4	79·1	84·4			23rd	90·0			
April ...	84·0	79·4	85·8	87·6	83·3	88·5	11·5	77·0	17th	91·8	21·8	21st	70·0
May ...	83·7	80 9	84·8	85·8	83·2	87·0	9·3	77·7	7th & 8th	90·7	17·1	6th	73·6
June ...	80·8	80·5	80·8	81·6	80·5	83·1	6·3	76·8	4th & 5th	86·7	12·1	30th	74·6
July ...	80·3	79·6	80·6	80·7	80·4	82·2	5·5	76·7	7th	84·7	10·1	3rd	74·6
August	81·0	80·1	81·2	82·2	80·7	82·9	5·8	77·1	29th	86·7	12·1	26th	74·6
Sept. ...	81·6	80·1	81·8	83·3	81·4	84·1	7·0	77·1	26th	87·0	12·4	8th	74·6
October	81·9	79·6	82·2	84·3	81·4	84·9	8 0	76·9	8th	88·7	15·1	30th	73·6
Nov. ...	77·4	73·4	77·9	82·4	75·9	82·7	12·4	70·3	6th	86·2	20·6	27th	65·6
Dec. ...	72·3	68·4	71·7	77·9	71·3	78·3	14·4	63·9	1st	81·7	22·0	30th	59·7

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	71·5	65·4	73·7	75·6	71·3
February	76·8	73·1	77·6	79·5	77·1
March	81·6	78·9	82·7	83·3	81·4
April	83·8	82·3	84·0	85·2	84·0
May	86·7	84·7	87·8	88·5	86·0
June	85·5	83·8	86·4	86·9	85·0
July	84·5	82·7	85·1	85·9	84·4
August	84·3	82·5	85·1	85·8	84·0
September	85·1	83·7	85·7	86·1	84·8
October	83·9	81·1	84·6	86·4	83·4
November	77·9	72·7	79·3	81·6	78·1
December	72·6	67·3	74·7	76·4	72·2

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	69·3	62·3	70·4	77·4	67·2	78·1	15·9	62·2	31st	82·0	24·4	6th & 7th	57·6
February	74·8	67·8	75·5	82·7	73·3	83·7	16·2	67·5	27th	88·0	26·5	21st	61·5
March...	80·7	73·0	81·7	89·2	78·9	91·3	18·5	72·8	30th & 31st	98·0	30·5	9th & 10th	67·5
April ...	84·8	78·2	87·3	92·0	81·7	99·9	23·7	76 2	16th—18th	109·0	42·5	16th	66·5
May ...	86·0	80·0	89 6	92·7	81·8	99·2	21·1	78·1	21st	105·0	31·5	7th	73·5
June ...	84·2	80·3	86 6	88·1	81·9	93·8	15·3	78·5	4th	100·0	26·5	3rd	73·5
July ...	82·2	78·8	84·4	85·4	80·1	90·7	13·1	77·6	1st	96·5	23·5	2nd	73·0
August	82·7	79 0	84·9	85·8	81·0	90·7	13·0	77·7	26th	95·0	19·5	8th	75·5
Sept. ...	82·4	79·1	85·0	85·1	80 5	90·3	12·9	77·4	3rd	95·0	20·5	6th	74·5
October	81·7	74·9	85·1	88·2	78·6	89·2	16·6	72·6	4th—7th	96·0	30·0	31st	66·0
Nov. ...	77·1	68·1	80·9	86·5	73·0	89·9	24·3	65·6	16th	94·0	32·5	28th	61·5
Dec. ...	73·5	65·0	76·9	82·8	69·3	87·0	25·3	61·7	2nd	92·0	38·2	29th & 30th	53·8

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	68·4	61·9	70·7	76·6	64·4	77·6	18·6	59 0	2nd	82 2	30·3	4th	51·9
February	75·3	71·2	76·6	80·8	72·7	82·0	13·6	68·4	25th	87·6	27·1	21st	60·5
March...	80·0	76·6	81·5	83·6	78·3	85·1	11·2	73·9	23rd	96·5	33·3	5th	63·2
April ...	82·8	80·5	85·0	85·4	80·4	87·4	10·0	77·4	15th	89·8	19·6	22nd	70·2
May ...	84·1	81·4	86·9	87·2	80·9	89·0	11·9	77·1	17th	91·9	20·0	14th	71·9
June ...	84·0	82·3	85·0	85·3	83·5	87·7	8·3	79·4	20th	90·7	17·7	3rd	73·0
July ...	82·8	80·6	84·1	84·5	82·1	86·8	8·1	78·7	29th	90·0	14·7	1st	75·3
August	83·3	81·4	84·5	84·9	82·4	87·2	8·0	79·2	31st	88·8	13·3	19th	75 5
Sept. ...	82·8	80·7	84·3	84·3	82·0	86·9	8·6	78·3	21st	89·0	13·5	10th	75·5
October	81·1	77·6	83·6	84·9	78·5	86·4	10·9	75·5	6th	91·1	23·5	31st	67·6
Nov. ...	75·7	69·7	78·7	82·5	71·9	83·4	15·4	68·0	15th	86·3	24·8	29th	61·5
Dec. ...	69·4	62·4	72·3	77·6	65·3	78·9	18·8	60·1	12th	82·8	31·3	29th	51·5

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	68·1	58·2	70·6	77·7	65·8	79·9	25·6	54·3	18th	86·2	36·2	28th	50·0
February	73·3	63·2	76·7	82·7	70·7	85·3	24·6	60·7	14th	91·0	36·5	3rd	54·5
March	76·8	67·8	81·0	83·9	74·6	86·3	20·0	66·3	26th	90·5	33·3	6th	57·2
April ...	81·4	75·8	86·2	84·8	78·9	90 2	16·2	74·0	30th	93·8	26·4	16th	67·4
May ...	81·8	76·4	86·7	85·1	79·1	90·9	16·0	74·9	1st	96·0	28·2	6th	67·8
June ...	80·6	78·1	83·0	82·2	79·3	86·0	9·4	76·6	5th	91·4	18·9	9th	72·5
July ...	80·5	77·5	82·9	82·6	79·2	86·6	10·6	76·0	18th	91·0	17·0	22nd	74·0
August	80·8	77·5	83·4	83·1	79·3	86·9	11·0	75·9	11th	91·4	17·7	17th	73·7
Sept. ...	81·5	77·9	84·4	84·1	79·6	88·1	11·7	76·4	7th	90·8	17·1	24th	73·7
October	80·1	75·2	82·8	84·2	78·2	87·4	14·0	73·4	6th	92·8	28·0	30th	64·8
Nov. ..	73·8	66·6	78·1	80·3	70·2	83·7	20·9	62·8	7th	86·6	27·8	28th	58·8
Dec. ...	68·2	59·6	71·4	75·8	66·1	79·8	24·2	55·6	6th	84·0	35·2	30th	48·8

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	68·0	61·3	69·2	76·1	65·6	77·1	17·3	59·8	1st	81·6	27·6	5th	54·0
February	74·6	68·0	75·2	83·4	71·8	84·0	17·3	66·7	15th	90·5	30·0	2nd	60·5
March...	79·7	73·2	80·2	88·4	76·9	88·7	16·6	72·1	26th	97·7	33·7	4th	64·0
April ...	83·0	78·2	85·2	88·9	79·9	90·7	14·0	76·7	30th	94·5	23·5	17th	71·0
May ...	83·8	78·4	86·4	89·8	80·6	91·2	14·0	77·2	17th	95·0	21·0	5th	74·0
June ...	82·8	80·5	84·3	84·8	81·8	87·2	7·4	79·8	1st	93·8	17·4	30th	76·4
July ...	82·6	79·8	83·8	85·2	81·5	86·8	7·4	79·4	29th	90·5	15·0	2nd	75·5
August	83·0	80·6	84·2	85·6	81·7	90·5	10·5	80·0	11th	91·3	13·8	1st	77·5
Sept. ...	82·5	79·9	84·2	84·6	81·2	87·3	8·0	79·3	4th	91·0	13·2	13th	77·8
October	81·8	77·8	83·9	86·0	79·6	87·1	10·0	77·1	4th	92·0	21·0	26th & 27th	71·0
Nov. ...	76·1	70·4	78·4	82·1	73·6	83·5	13·9	69·6	2nd	86·9	24·9	28th	62·0
Dec. ...	69·4	63·1	71·6	76·3	66·8	77·7	15·9	61·8	1st	82·5	25·5	29th	57·0

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day	⊖		Day.	⊖
January	64·7	52·2	71·4	77·9	57·3	79·5	28·8	50·7	24th & 25th	84·5	40·5	5th	44·0
February	72·3	60·4	77·8	85·1	65·7	86·9	28·0	58·9	15th	94·9	43·7	2nd	51·2
March...	78·6	68·4	83·3	89·3	73·4	91·7	24·6	67·1	26th	101·7	44·7	18th	57·0
April ...	82·1	75·5	86·4	87·9	78·6	92·7	18·7	74·0	30th	99·5	34·5	16th & 17th	65·0
May ...	82·1	76·5	87·2	86·3	78·4	91·7	16·2	75·5	17th	96·5	28·0	5th	68·5
June ...	81·9	79·4	84·0	83·4	80·8	88·2	9·8	78·4	1st	93·2	18·7	4th	74·5
July ...	82·6	79·3	85·3	84·9	80·9	88·3	9·9	78·4	8th	92·2	17·7	2nd	74·5
August	83·0	79·7	85·4	85·5	81·3	88·5	9·5	79·0	6th	91·8	16·1	23rd	75·7
Sept. ...	82·7	79·6	84·9	85·0	81·2	88·4	9·8	78·6	30th	92·2	15·3	26th	76·9
October	81.1	75·9	85·0	85·5	78·1	88·1	13·5	74·6	6th	93·5	25·6	31st	67·9
Nov. ...	73·7	64·7	80·5	81·9	67·9	85·3	21·8	63·5	3rd & 4th	88·9	35·9	28th	53·0
Dec. ...	65·6	54·9	73·1	75·2	59·1	79·3	26·0	53·3	1st	85·6	39·2	14th	46·4

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	67·3	58·6	71·6	75·4	63·8	77·9	23·7	54·2	23rd	83·0	34·5	4th	48·5
February	75·0	65·6	79·6	84·0	70·9	85·5	24·6	60·9	15th	92·0	37·1	2nd	54·9
March...	78·5	71·0	80·9	86·7	75·2	88·4	21·5	66·9	24th	96·0	38·4	6th	57·6
April ...	81·1	75·3	84·9	86·2	78·1	90·0	19·0	71·0	5th	93·5	28·1	3rd	65·4
May ...	81·9	77·0	84·9	86·2	79·4	89·0	15·9	73·1	17th	95·4	29·6	13th	65·8
June ...	82·8	80·5	84·6	84·7	81·5	86·9	10·4	76·5	21st	91·2	19·3	29th	71·9
July ...	82·6	80·3	84·0	84·7	81·5	86·6	10·3	76·3	29th	89·9	17·5	16th	72·4
August	83·5	80·7	85·1	85·9	82·2	87·9	11·2	76·7	11th	92·8	19·1	23rd	73·7
Sept. ...	83·4	80·7	85·4	85·9	81·7	87·5	11·0	76·5	8th	91·0	16·6	24th & 25th	74·4
October	81·6	77·3	85·3	84·6	79·0	87·3	14·0	73·3	9th	92·0	25·1	28th	66·9
Nov. ...	75·1	68·0	80·5	80·7	71·3	83·5	20·1	63·4	3rd	88·0	30·8	28th	57·2
Dec. ...	68·4	60·1	73·7	75·5	643	78·4	23·8	54·6	1st	82·6	32·6	29th	50·0

CACHAR.

	Mean.	4h.	10h.	16h.	22h.	Mean of mase.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	64·4	54·1	65·7	77·2	60·6	77·9	26·3	51·6	22nd	81·7	38·7	11th	43·0
February	70·4	60·2	73·8	82·0	65·6	83·1	25·1	58·0	16th	90·0	36·0	22 n	54·0
March...	73·6	64·5	76·8	82·9	70·2	84·4	22·5	61·9	28th	92·5	41·5	6th	51·0
April ...	77·7	70·4	80·4	84·8	75·2	85·9	15·9	70·0	30th	94·0	31·0	2nd	63·0
May ...	81·0	75·6	82·8	86·7	78·9	88·4	14·6	73·8	17th & 18th	94·0	26·0	12th	68·0
June ...	82·7	78·4	84·2	87·3	81·0	90·5	12·6	77·9	24th	95·0	21·0	2nd	74·0
July ...	80·6	76·6	81·5	85·0	79·4	88·7	13·0	75·7	19th	95·0	21·0	22nd	74·0
August	81·6	77·6	82·6	86·3	79.9	88·8	12·4	76·4	11th	94·0	20·0	23rd	74·0
Sept. ...	81·7	77·7	83·2	86·2	79·9	90·3	13·7	76·6	21st	98·0	23·0	30th	75·0
October	79·4	73·8	81·4	85·7	76·7	87·7	15·4	72·3	9th	96·0	32·0	29th	64·0
Nov. ...	72·1	63·9	74·1	81·5	68·8	83·2	20·8	62·4	7th	87·0	28·0	28th	59·0
Dec.. ...	65·2	56·1	66·2	76·7	61·7	78·7	24·7	54·0	19th	81·0	31·0	31st	50·0

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	61·5	53·0	64·2	70·9	58·0	73·6	23·7	49·9	1st	80·0	38·0	5th	42·0
February	68·4	59·4	71·9	77·8	64·4	80·4	23·9	56·5	15th	88·0	40·0	27th	48·0
March...	75·6	65·7	80·3	85·3	71·2	88·3	25·0	63·3	25th	99·0	48·0	4th & 5th	51·0
April ...	83·2	73·0	88·0	92·2	79·5	95·7	25·8	69·9	30th	102·0	39·0	24th	63·0
May ...	82·1	74·9	85·6	88·7	79·1	93·4	21·7	71·7	18th	100·0	35·0	10th	65·0
June ...	79·8	75·6	82·3	83·5	78·0	87·3	13·3	74·0	2nd	95·0	24·0	29th	71·0
July ...	77·0	74·1	78·5	79·9	75·5	83·5	10·7	72·8	20th	89·0	19·0	23rd	70·0
August	76·5	73·8	78·0	78·9	75·2	82·5	10·1	72·4	30th	87·0	17·0	28th	70·0
Sept. ...	76·7	73·2	79·2	79·5	75·0	83·1	11·1	72·0	1st	88·0	19·0	7th	69·0
October	74·9	68·5	78·9	80·3	71·9	83·2	17·1	66·1	4th	86·0	25·0	31st	61·0
Nov. ...	69·3	61·3	74·5	76·0	65·5	79·7	20·6	59·1	2nd	86·0	34·0	27th	52·0
Dec. ...	62·3	54·8	65·9	70·1	58·3	73·2	21·1	52·1	6th	79·0	35·0	29th	44·0

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	65·9	56·3	68·4	77·1	62·0	78·4	23·6	54·8	31st	85·0	36·5	5th	48·5
February	73·5	63·0	76·9	84·5	69·5	86·1	24·9	61·2	15th	94·5	39·5	2nd	55·5
March...	78·0	65·9	82·2	90·7	73·2	92·5	28·0	64·5	30th	102·0	47·0	7th	55·0
April ...	84·3	75·3	86·6	93·9	81·3	97·5	23·1	74·4	13th	106·0	40·0	22nd	66·0
May ...	82·5	76·2	85·8	88·4	79·7	93·4	17·8	75·6	17th	100·0	32·5	9th	67·5
June ...	83·2	79·8	85·2	86·8	81·0	90·7	11·4	79·3	2nd	98·5	21·5	30th	77·0
July ...	83·2	79·5	84·6	86·9	81·8	89·8	10·7	79·1	6th	94·0	17·0	24th	77·0
August	84·1	80·2	86·2	86·8	83·1	89·8	10·0	79·8	11th	93·0	16·5	25th	76·5
Sept. ...	83·1	79·8	84·6	85·9	82·2	89·4	10·1	79·3	21st	93·5	17·0	15th	76·5
October	82·3	77·2	85·5	86·9	79·7	89·3	12·9	76·4	3rd	94·0	24·5	27th	69·5
Nov. ...	74·8	66·3	79·3	83·3	70·4	85·5	20·0	65·5	2nd	91·0	31·0	27th	57·0
Dec. ...	67·0	58·1	70·7	76·5	62·7	78·3	21·8	56·5	11th	82·0	31·5	29th	50·5

GYA.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January													
February													
March ..	80·0	69·0	84·7	91·1	75·1			65·4				5th	55·0
April ...	87·7	77·1	91·8	98·6	83·5	99·9	25·4	74·5	29th	106·0	45·0	22nd	61·0
May ...	85·7	77·9	88·6	93·2	83·2			76·2				10th	67·5
June ...	87·0	81·7	89·1	92·5	84·8	96·4	16·5	79·9	7th	103·0	27·0	29th	76·0
July ...	82·7	79·5	84·3	86·1	81·1	88·9	10·8	78·1	7th	97·0	23·0	1st	74·0
August	82·5	79·3	84·9	84·8	81·2	87·7	9·9	77·8	30th	93·0	18·0	17th & 18th	75·0
Sept. ...	82·7	79·0	85·6	85·6	80·8	89·0	11·7	77·3	1st	93·5	18·0	29th	75·0
October	80·9	73·6	84·6	87·4	78·1	89·5	18·3	71·2	15th	92·0	26·0	31st	66·0
Nov. ...	73·7	63·4	79·5	82·6	69·3	84·6	23·7	60·9	1st	90·5	36·0	29th	54·5
Dec. ...	65·3	55·1	70·2	74·6	61·3	76·5	23·7	52·8	1st	82·0	36·0	4th	46·0

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	61·5	50·6	66·9	72·8	55·6	75·1	29·5	45·6	1st	83·3	44·4	6th	38·9
February	68·6	57·0	74·8	80·4	62·2	82·4	30·9	51·5	12th	89·3	43·1	21st	46·2
March	76·6	62·8	83·2	90·4	69·9	93·8	37·5	56·3	31st	103·3	57·0	3rd	46·3
April ...	85·4	73·6	90·7	97·0	80·4	101·9	33·9	68·0	10th	110·3	47·5	24th	62·8
May ...	84·9	75·7	89·5	93·8	80·4	99·0	27·4	71·6	18th	111·3	46·4	8th	64·9
June ...	88·2	81·1	92·1	94·9	84·8	98·8	21·9	76·9	20th	107·3	35·5	29th	71·8
July ...	83·9	80·4	85·8	87·1	82·2	89·8	13·4	76·4	7th	100·3	29·5	1st	70·8
August	84·1	80·2	86·3	872	82·7	89·0	13·0	76·0	15th	93·3	19·5	27th & 28th	73·8
Sept. ...	82·2	78·2	84·1	85·7	80·9	86·8	13·0	73·8	9th	92·3	24·4	27th	67·9
October	81·2	74·2	85·5	87·3	77·9	87·8	19·0	68·8	2nd-13th	90·3	29·5	31st	60·8
Nov. ...	72·0	61·8	77·9	81·2	67·1	81·9	27·0	54·9	2nd	87·3	39·1	28th	48·2
Dec. ...	64·0	54·0	69·3	72·7	60·1	73·0	26·2	46·8	22nd	76·3	34·9	4th	41·4

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	63·1	55·3	64·2	72·7	60·4	73·9	21·5	52·4	1st	81·0	31·0	12th	47·0
February	70·3	61·3	72·4	80·0	67·8	81·5	23·2	58·3	24th & 25th	87·0	34·0	20th	53·0
March	76·4	65·6	78·7	88·3	73·2	89·0	27·4	61·6	25th	98·0	48·0	17th	50·0
April ...	84·1	74·5	87·3	93·9	80·5	96·2	25·1	71·1	14th	102·0	36·0	21th	66·0
May ...	83·5	75·5	87·0	91·0	80·5	94·0	20·5	73·5	18th	105·0	37·0	8th	68·0
June ...	85·1	80·2	87·5	89·8	82·8	93·1	14·7	78·4	1st	101·0	25·0	28th-30th	76·0
July ...	83·2	80·3	84·1	86·1	82·1	87·8	9·9	77·9	7th	93·0	19·0	1st	74·0
August	83·0	80·4	84·3	85·3	82·1	87·5	8·7	78·8	12th	91·0	15·0	28th	76·0
Sept. ...	81·9	79·7	83·5	83·4	80·9	86·8	9·5	77·3	9th	92·0	18·0	26th	74·0
October	81·0	75·2	83·5	86·3	78·9	87·7	14·6	73·1	10th&11th	91·0	25·0	22nd	66·0
Nov. ...	72·5	64·7	75·3	81·3	68·7	83·3	20·9	62·4	2nd	88·0	33·0	29th	55·0
Dec. ...	64·3	57·0	66·5	73·0	60·6	74·8	20·9	53·9	6th & 7th	78·0	29·0	18th	49·0

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest Max.		Monthly range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	43·7	36·7	49·3	49·2	39·6	55·6	21·5	34·1	20th	62·0	31·8	30th	30·2
February	46·1	41·0	49·5	50·9	43·1	55·4	16·0	39·4	6th	63·0	30·8	19th	32·2
March...	48·2	43·5	51·8	52·0	45·8	58·2	18·1	40·1	26th	72·0	39·8	8th	32·2
April ...	55·9	51·9	58·7	59·3	53·8	64·1	16·6	47·5	13th	69·0	25·6	24th	43·4
May ...	58·8	55·1	61·3	62·3	56·6	65·2	12·9	52·3	17th	73·0	29·6	6th	43·4
June ...	63·4	60·0	65·6	66·3	61·6	69·3	10·7	58·6	24th	78·0	22·8	7th	55·2
July ...	63·1	60·6	64·9	65·6	61·5	69·6	10·4	59·2	29th	75·0	18·8	22nd	56·2
August	63·2	60·4	65·3	65·5	61·7	69·1	10·3	58·8	13th	73·0	15·8	31st	57·2
Sept. ...	61·2	57·4	64·1	64·1	59·1	68·1	12·4	55·7	8th	76·0	23·8	28th	52·2
October	58·4	52·9	63·3	62·1	55·1	67·3	17·4	49·9	8th-10th	73·0	28·6	29th	44·4
Nov. ...	49·4	44·8	53·7	52·0	47·2	57·7	15·1	42·6	15th	64·0	24·8	27th	39·2
Dec. ...	43·9	38·2	49·1	47·4	40·8	54·0	18·0	36·0	24th	58·0	24·8	29th	33·2

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	65·7	57·3	67·8	73·4	64·3	75·5	22·1	53·4	29th	82·0	37·1	14th	44·9
February	70·2	61·4	71·8	77·6	70·0	81·1	22·6	58·5	16th	86·6	38·5	20th	48·1
March...	71·6	62·6	75·3	78·9	69·7	82·8	23·5	59·3	26th	93·0	42·6	6th	50·4
April ...	75·4	68·7	76·7	81·5	74·8	85·9	20·0	65·9	30th	93·0	31·8	15th	61·2
May ...	78·0	72·6	79·6	82·9	77·1	86·3	16·0	70·3	17th	94·2	30·9	1st	63·3
June ...	80·9	77·8	82·7	83·1	79·8	87·7	12·1	75·6	19th	93·4	20·9	5th	72·5
July ...	80·9	78·1	82·5	83·1	80·0	87·1	12·0	75·1	26th	91·6	18·6	18th	73·0
August	81·3	77·9	83·4	83·9	80·1	88·2	12·7	75·5	11th & 13th	92·2	19·2	24th	73·0
Sept. ...	80·0	76·7	82·1	82·5	78·8	86·6	12·3	74·3	21st	91·9	20·4	25th	71·5
October	78·1	72·8	80·3	82·7	76·6	85·3	15·2	70·1	10th & 11th	90·9	26·5	26th	64·4
Nov. ...	71·7	64·3	74·8	77·2	70·4	80·1	18·1	62·0	1st & 2nd	83·0	25·8	25th	57·2
Dec. ...	65·6	57·1	69·5	71·6	64·3	74·4	19·9	54·5	30th	76·3	25·8	13th	50·5

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	52·0	46·3	56·3	56·7	48·6	61·7	18·9	42.8	22nd	65·5	30·5	5th	35·0
February	55·9	50·9	59·7	60·3	52·8	63·9	15·6	48·3	16th	70·0	26·5	20th	43·5
March...	60·2	54·7	64·5	64·0	57·7	69·3	16·3	53·0	29th	77·5	34·5	6th	43·0
April ...	62·7*	...	68·7	68·2	...	72·0	14·8	57·2	14th	77·5	25·0	24th	52·5
May ...													
June ...	69·6	66·2	72·1	72·2	68·1	75·1	9·4	65·7	20th	80·0	19·0	1st	61·0
July ...	69·0	65·8	71·1	71·7	67·3	75·4	10·5	64·9	26th	78·5	16·0	26th	62·5
August	69·3	66·1	71·5	71·8	67·7	75·5	10·3	65·2	1st	80·0	16·5	29th & 30th	63·5
Sept. ...	67·8	64·1	70·8	70·1	66·2	74·6	11·4	63·2	10th	80·0	20·0	29th	60·0
October	63 6	58·5	67·8	66·7	61·3	71·5	13·6	57·9	9th	77.0	26·5	28th	50·5
Nov. ...	56·6	50·8	60·9	60·3	54·4	64·7	15·7	49.0	7th	71·0	25·5	29th	45·5
Dec. ...	50·6	43·7	55·9	55·1	47·6	60·7	18·5	42·2	30th	68·0	31·0	13th	37·0

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest mix.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	60·1	47·5	66·5	74·3	51·9	76·6	34·8	41·8	2nd	85·0	54·0	5th	31·0
February	68·2	55·2	73·8	82·7	61·1	83·6	33·8	49·8	15th	93·0	51·0	1st	42·0
March	75·7	60·2	84·6	91·6	66·5	92·4	38·5	53·9	25th	105·0	61·0	5th & 6th	44·0
April ...	85·4	71·1	93·4	98·6	78·4	101·1	35·8	65·3	14th	108·0	51·0	6th	57·0
May ...	88·0	78·3	92·3	97·8	83·5	100·1	27·2	72·9	27th	108·0	42·0	5th	66·0
June ...	87·8	82·2	91·3	93·0	84·8	97·5	20·6	76·9	3rd & 4th	107·0	36·0	22nd	71·0
July ...	83·6	79·8	85·9	87·4	81·3	90·4	15·4	75·0	8th	97·0	25·0	23rd & 24th	72·0
August	82·8	79·5	84·4	86·2	80·9	89·0	14·7	74·3	31st	96·5	25·5	9th	71·0
Sept. ...	81·9	78·0	85·9	84·3	79·4	90·3	17·0	73·3	3rd	96·0	27·0	29th	69·0
October	79·7	68·3	87·0	91·8	71·8	94·1	31·1	63·0	15th & 16th	96·0	40·0	28th-31st	56·0
Nov. ...	71·4	58·9	78·6	85·0	63·0	88·0	34·9	53·1	1st	94·0	47·0	21st	47·0
Dec. ...	62·4	51·9	66·8	75·2	55·8	77·7	...	...	8th	83·0	...	...	...

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Mean of max.	Mean daily range.	Mean of min.	Highest max.		Monthly range.	Lowest min.	
									Day.	⊖		Day.	⊖
January	56·3	45·4	58·3	68·4	53·3	70·8	27·9	42·9	31st	81·2	50·0	12th	31·2
February	64·8	55·3	67·8	75·9	60·7	77·6	24·9	52·7	10th	85·7	41·0	3rd	44·7
March...	71·2	56·4	77·0	85·3	66·3	87·0	34·7	52·3	31st	99·7	56·0	5th	43 7
April ...	82·2	68·4	89·7	94·2	76·4	97·3	32·4	64·9	29th & 30th	104·1	46·4	4th	57·7
May ...	84·6	75·3	88·6	94·3	80·2	97·1	23·7	73·4	24th & 25th	104·2	38·5	11th	65·7
June ...	85·3	79·4	86·5	91·9	83·6	94·1	16·0	78·1	1st & 2nd	105·1	35·3	23rd	69·8
July ...	82·4	77·6	84·2	86·4	81·3	89·2	11·5	77·7	27th	95·7	22·9	17th	72 8
August	82·3	76·8	84·2	87·4	80·9	89·1			27th	94·2			
Sept. ...	82·4	76·0	85·4	89·5	78·9	92·1	17·5	74·6	22nd	95·2	29·5	30th	65·7
October	75·6	62·2	82·3	88·8	69·2	91·2	30·8	60·4	12th	94·2	43·0	28th	51·2
Nov. ...	65·4	51·4	72·5	79·4	58·2	82·6	34·0	48·6	2nd	88·2	52·0	25th	36 2
Dec. ...	57·4	46·2	61·3	68·5	53·6	71·7	28·0	43·7	9th	78·2	48·5	27th	29 7

Table VII. Mean monthly Temperatures of 1871.

Reduced to Sea Level Values.

	Jan.	Feb.	March.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
CEYLON.												
Hambantotte ..	78·9	80·3	81·6	83·3	82·4	82·7	81·8	82·8	81·5	81·7	80·7	79·7
Galle ...	78·4	80·0	80·9	82·0	81·6	80·4	79·1	80·9	80·3	80·7	80·1	79 0
Colombo ...	79·7	81·0	81·2	83·4	83·6	81·1	80·0	81·5	81·6	81·9	81·4	80·8
Kandy ...	77·6	79·5	81·3	82·5	82·1	79·7	77·7	79·8	79·3	79·6	79·2	78·8
Trincomalee ...	...	80·4	82·8	86·1	86·9	86·9	86·0	86·3	84·4	83·6	80·4	80·0
Jaffna ...	78·9	81·1	83·5	86·3	85·5	84·1	83·0	83·8	83·4	83·3	81·1	79·9
SOUTH INDIA.												
Madras ...	77·4†	79·7†	83·2†	85·6†	88·6†	88·1†	85·9†	87·7†	85·1†	82·0†	77·8†	78·7†
Vizagapatam ...	76·0	79·4	83·9	86·2	87·8	87·4	85·3	86·5	85·7	86·1	82·3	79·0
EAST COAST.												
Port Blair ...	78·9*	80·9*	83·0*	85·1*	81·3*	81·9*	80·6*	81·1*	79·8*	80·7*	81·0*	80·2*
Akyab ...	71·5	75.4	79·1	84·0	83·7	80·8	80·3	81·0	81·6	81·9	77·4	72·3
BENGAL.												
Chittagong ...	68·3	73·5	77·0	81·6	82 0	80·8	80·7	81·0	81·7	80·3	74·0	68·4
Cachar ..	64·6	70·6	73·8	77·9	81·2	82·9	80·8	81 8	81·9	79·6	72·3	65·4
Nazeera ...	63·6	67·9	69·2	75 0	80·1	85·3	84·4	85·0	84·7	79·9	72·2	64·2
Shillong ...	65·6	69·5	73·8	78·5	...	83·2	82·6	82·9	81·4	77·2	70·2	64·2
Dacca ...	67·3	75·0	78·5	81·1	81·9	82·8	82·6	83·5	83·4	81·6	75·1	68·4
Goalparah ...	66·8	71·3	72 7	76·5	79·1	82·0	82·0	82·4	81·1	79·2	72·8	66·7
Darjeeling ...	63·6	66·0	68·1	75·8	78·7	83·3	83·0	83·1	81·1	78·3	69·3	63·8
Jessore ...	64·7	72·3	78·6	82·1	82·1	81·9	82·6	83·0	82·7	81·1	73·7	65·6
Berhampore ...	66·1	73·7	78 2	84·5	82·7	83·4	83·4	84·3	83·3	82·5	75·0	67·2
Calcutta ...	68·0	74·6	79·7	83·0	83·8	82·8	82·6	83·0	82·5	81·8	76·1	69·4
Saugor Island	68·4	75·3	80·0	82·8	84·1	84·0	82·8	83·3	82·8	81·1	75·7	69·4
Cuttack ...	69·5	75·0	80·9	85·0	86·2	84·4	82·4	82·9	82·6	81·9	77·3	73 7
False Point ...	71·5	76·8	81·6	83·8	86·7	85·4	84·5	84·3	85·1	83·9	77 9	72·6
Hazareebaugh	67·2	74·1	81·3	88·9	87·8	85·5	82·7	82·2	82·4	80·6	75·0	68·0
Monghyr ...	63·5	70·7	76·8	84·5	83·9	85·5	83·6	83·4	82·3	81·4	72·9	64·7
Gya ...	...	...	81·0	88·7	86·7	88·0	83·7	83·5	83·7	81·9	74·7	66·3
Patna ...	62·0	69·1	77·1	85·9	85·4	88·7	84·4	84·6	82·7	81·7	72·5	64·5
NORTH-WESTERN PROVINCES.												
Benares ...	60·8	68·9	76·4	86·1	88·7	88·5	84·3	83·5	82·6	80·4	72·1	63·1
Roorkee ...	58·8	67·3	73·7	84·7	87·1	87·8	84·9	84·8	84·9	78·1	67·9	59·9
CENTRAL PROVINCES.												
Hoshungabad	68·9*	77·6*	84·1*	91·9*	96·2*	86·7*	81·5*	80·9*	82 3*	82·4*	79·8*	76·9*
Sagar ..	67·4*	75·9*	82·7*	89·8*	90·8*	85·4*	81·5*	80·1*	81·7*	83·2*	79·3*	75·0*
Jabalpúr ...	66·2*	71·4*	78·8*	88·8*	91·3*	85·4*	81·3*	80·5*	82·2*	79·5*	74·5*	70·0*
Pachmahri ...	69·8*	75·1*	79·8*	90·1*	91·1*	82·0*	79·3*	77 9*	79·7*	78·6*	75·3*	71·5*
Seoni ...	69·8*	74·0*	81·7*	88·8*	88·6*	84·3*	81·5*	80·6*	81·8*	80·5*	75·8*	75·1*
Nagpúr ...	70·8*	77·0*	84·3*	92·2*	92·7*	85·8*	80·9*	80·3*	82·1*	81·7*	77·9*	74 3*
Raipúr ...	69·3*	... *	... *	91·4*	92·9*	85·3*	80·7*	82·2*	81·9*	81·5*	77·2*	74·1*
Sambalpúr ..	...	... *	... *	90·4*	93·7*	81·3*	80·7*	83·2*	83·6*	83·1*	77·2*	72·2*
Chanda ...	69·1*	75·3*	83·0*	92·6*	94·3*	86·3*	81·1*	81·9*	80·3*	78·5*	76·4*	73 7*

Table VIII. Monthly mean Temperatures of Several Stations deduced from the registers of the years 1868-71.

	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Port Blair ...	4	78·7	79·1	81·4	83·8	81·6	81·6	80·6	80·5	79·8	80·2	79·8	79·2
Madras ...	4	76·7	79.5	82·9	86·0	89·5	87·8	85·8	86·2	84·2	82·4	78·6	77·7
Akyab ...	2-4	70·5	74·6	78·9	83·6	84·4	82·3	81·0	81·6	82·0	81·5	77·8	72·0
Cuttack ...	4	70·2	74·4	80·1	86·0	89·0	85·8	84·0	84·0	83·2	81·5	74·6	69·6
False Point ...	4	71·2	75·2	80·1	84·0	87·1	86·3	85·3	85·1	85·2	84·1	77·4	70·9
Saugor Island ...	3-4	69·0	74·0	79·9	83·9	85·6	85·1	84·1	83·5	83·1	81·2	75·0	68·2
Calcutta ...	4	68·8	73·3	79·6	83·6	85·0	83·7	83·1	83·2	82·6	81·7	75·1	68·5
Chittagong ...	4	67·6	71·7	77·9	81·2	83·0	81·6	80·9	81·3	81·5	80·5	74·2	67·9
Jessore ...	4	66·0	70·8	78·9	82·3	85·3	83·5	83·3	83·2	82·8	80·6	72·0	64·7
Dacca ...	4	67·5	72·8	79·8	82·0	83·6	83·5	83·2	83·8	83·2	81·6	74·9	68·5
Hazareebaugh ...	4	61·7	66·2	74·3	82·6	85·9	81·4	79·2	77·9	77·3	74·5	68 9	61·6
Berhampore ...	4	65·3	70·7	78·2	85·5	86·3	84·6	84·0	84·1	83·4	81·7	73·5	66·2
Patna ...	4	60·7	66·2	76·6	83·7	87·0	87·2	84·1	83·4	82·3	78·9	68·9	61·8
Monghyr ...	4	62·8	68·5	77·1	84·7	86·8	86·2	84·1	83·8	82·8	80·4	71·4	63·5
Darjeeling ...	4	42·9	44·5	50·4	56·1	60·2	63·3	63·9	64·0	62·1	58·0	50·2	44·0
Benares ...	3-5	58·5	67·8	75·2	86·2	91·2	90·2	85·9	85·2	84·0	79·2	68·5	59·1
Roorkee ...	5	57·6	62·3	69·6	80·4	88·8	89·0	84·5	84·2	83·0	76·0	63·7	57 5
Agra ...	3-4	58·7	63·9	73·3	84·1	93·6	92·9	87·5	84·7	83·9	79·1	69·3	61·8
Nágpúr ...	3	70·5	75·1	81·1	87·3	93·8	86·0	78·4	78·9	79·0	77·5	72·3	68·7
Jabalpúr ...	3	62·9	67·2	73·5	84·2	90·2	87·4	78·6	77·9	78·7	75·0	67·6	62·7

Table IX.—Comparison of the mean temperatures of each month of 1871 with the averages of Table VIII.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Port Blair ...	—0·1	+1·5	+1·3	+1·0	—0·6	·0	—0·3	+0·3	—0·3	+0·2	+0·9	+0·7
Madras ...	+0·6	+0·1	+0·2	—0·5	—1·0	+0·2	·0	+1·4	+0·8	—0·5	—0·9	+0·9
Akyab ...	+1·0	+0·8	+0·2	+0·4	—0·7	—1·5	—0·7	—0·6	—0·4	+0·4	—0·4	+0·3
Cuttack ...	—0·9	+0·4	+0·6	—1·2	—3·0	—1·6	—1·8	—1·3	—0·8	+0·2	+2·5	+3·9
False Point ...	+0·3	+1·6	+1·5	—0·2	—0·4	—0·8	—0·8	—0·8	—0·1	—0·2	+0·5	+1·7
Saugor Island ...	—0·6	+1·3	+0·1	—1·1	—1·5	—1·1	—1·3	—0·2	—0·3	—0·1	+0·7	+1·2
Calcutta ...	—0·8	+1·3	+0·1	—0·6	—1·2	—0·9	—0·5	—0·2	—0·1	+0·1	+1·0	+0·9
Chittagong ...	+0·5	+1·6	—1·1	+0·2	—1·2	—1·0	—0·4	—0·5	·0	—0·4	—0·4	+0·3
Jessore ...	—1·3	+1·5	—0·3	—0·2	—3·2	—1·6	—0·7	—0·2	—0·1	+0·5	+1·7	+0·9
Dacca ...	—0·2	+2·2	—1·3	—0·9	—1·7	—0·7	—0·6	—0·3	+0·2	·0	+0·2	—0·1
Hazareebaugh ...	—0·2	+2·2	+1·3	+0·6	—3·8	—1·6	—2·2	—1·4	—0·6	+0·4	+0·4	+0·7
Berhampore ...	+0·6	+2·8	—0·2	—1·2	—3·8	—1·4	—0·8	·0	—0·3	+0·6	+1·3	+0·8
Patna ...	+0·8	+2·4	·0	+1·7	—2·1	+1·0	—0·2	+0·7	—0·1	+2·3	+3·1	+2·2
Monghyr ...	+0·3	+1·8	—0·7	—0·6	—3·3	—1·1	—0·9	—0·8	—0·9	+0·6	+1·1	+0·8
Darjeeling ...	+0·8	+1·6	—2·2	—0·2	—1·4	+0·1	—0·8	—0·8	—0·9	+0·4	—0·8	—0·1
Benares ...	+1·6	+0·4	+0·5	—0·8	—3·2	—2·4	—2·3	—2·4	—2·1	+0·5	+2·9	+3·3
Roorkee ...	—1·3	+2·5	+1·6	+1·8	—4·2	—3·7	—2·1	—1·9	—0·6	—0·4	+1·7	—0·1
Nágpúr ...	—2·6	—1·0	+0·3	+2·0	—4·0	—3·1	—0·4	—1·5	+0·2	+1·3	+2·7	+2·7
Jabalpúr ...	—0·4	+0·5	+1·6	+0·9	—2·6	—5·7	—1·0	—1·1	—0·2	+0·8	+3·2	+3·6

The distribution of mean temperature (as deduced from four years' observations), and the annual changes that it undergoes, appear to correspond in general to the distribution and changes of mean pressure already described; areas of low temperature coinciding with those of high pressure, and *vice versâ*. Thus, in January, the Panjáb has a lower temperature than any other part of India, and the mean temperature of Benares, allowing for difference of elevation, is a little lower than that of Roorkee and Agra in the hot weather. On the other hand, the seat of highest temperature at this season is in Central India, and, during the rainy season, in the Panjáb. This coincidence is, however, not exact, nor without exception. For example, while the mean pressure at Cuttack during the cold weather months is higher than that of the Gangetic delta and equal to that of Roorkee and Agra, the mean temperature of the same station is two or three degrees higher than that of the former area; and, after allowing for difference of elevation, at least fifteen degrees higher than that of the latter. It has already been noticed by the Messrs. Von Schlagintweit that in the cold weather months the course of the isothermals coincides more nearly with the parallels of latitude than at any other season. This conclusion is borne out by the present table, but it shows the isothermals to be less regular than as they are laid down on Messrs. Schlagintweit's chart. The temperature corresponding to equal elevations is about the same (73·5°) in January at Nágpúr and Bombay, and the January isothermal of 67·5° would pass nearly through the stations of Dacca, Calcutta and Hazareebaugh, somewhat south of Jabalpúr, and North of Hoshungabád. The isotherm of 60° is somewhat less regular. It passes from Seebsaugor west by north into Bhotan, and, after following the outer spurs of the Himalayas nearly to the limits of Behar, it decends across the plains to Benares, and follows the course of the Ganges to Agra; then, after a sudden bend to the north, it turns again to west and south, and takes a course about parallel to the Sutlej, and some distance to the south of that river.

The general rise of temperature in February and March is considerably greater in the interior of the Peninsula than on the coast, and greater on the east than on the west coast. Thus, in the Panjáb, it amounts to between 12° and 14°; at Ajmere and Jhansie to 15°; at Nagpúr and Hoshungabád to about 12°; while at False Point and Saugor Island it is 9° or 10°; and Bombay barely 4°. In the Gangetic delta it amounts to 12° or 13°; but at Cachar only to 10°; at Goalparah to 9°; and at Seebsaugor in Upper Assam to not more than 8°.

In April and May these variations in the relative rise of temperature become greatly exaggerated, and in the latter month the isothermals form a series of somewhat irregular concentric curves around a portion of the Central Provinces and Rajputana, now the hottest portion of the Peninsula. The May isotherm of 95° includes Nagpúr, Hoshungabád, Ajmere and Jhansie; that of 90° the whole of the Panjáb and the North-West Provinces, nearly to the confines of Behar. Then, crossing the Ganges, it passes to the north of Gya and Hazareebaugh, and, bending to the south, runs a little to the west

of Cuttack. Bombay on the one side of India, and Saugor Island and Jessore on the other, lie just within the isotherm of 85°. Goalparah is the only station the mean May temperature of which does not exceed 80°. That of Seebsaugor is 81° 4′, and that of Cachar 82°.

In June the setting of the rains is accompanied with a great and general fall of temperature, except in the Panjáb and the western portion of Rájpútána (also probably Sind and the Bikaneer Desert, but data for these tracts are not at present available); and these, therefore, become the region of greatest heat as well as (probably) the lowest barometric pressure in the Peninsula. After June, however, the scanty rains, together with the retreat of the sun in declination, conduce to a gradual fall of the temperature, and in September the mean temperature of the Panjáb is but two or three degrees above that of the North-West Provinces or Bengal. About the end of the month, or the beginning of October, the whole region, except Western Rajputana [and Sind ?], has a nearly uniform temperature.

In Upper Assam the seasons are less strongly marked. Here, as in the temperate zone, the heat increases gradually and uniformly up to July, and, from June to September, remains about 4° above that of the delta. Even at Goalparah, at the mouth of the valley, no fall of temperature marks the burst of the monsoon rains, but a steady rise of about 1° per month after April brings the mean temperature up to between 82° and 83° in July and August, and is followed by an equally steady fall till October. In Assam, the hot season, as understood in Northern India, is unknown. After October the fall of temperature is rapid and unequal, ending in the state of things already described at the outset.

In January, 1871, the mean temperature of the delta was a little below the average of the four years, the greatest depression being at Jessore. It was also below the same average at Cuttack, and in the Central Provinces south of the Sátpúra range. On the other hand, on both coasts of the bay, the temperature was somewhat higher than the average, and the same was the case in Behar and part of the North-West Provinces. At Benares the excess amounted to 1·6°. At Roorkee, again, the mean temperature was 1·3° below the average; and thus the abnormal elevation of temperature at Benares, as compared with Roorkee on the one hand, and with Nagpúr on the other, amounted to 2·9° and 4·2° respectively; comparing this with the abnormality of relative pressures already noticed at page 26 it will be observed that the relation of pressure to temperature in the seasonal irregularities of these elements is the same as in their normal distribution above noticed.

In February the temperature was above the mean everywhere except at Nágpúr; and even there the depression was less than in January. The excess was greatest at Berhampore, and at this place, Dacca, Hazareebaugh and Patna it exceeded 2°. At Roorkee, which in January was 1·3° below the

mean, the February temperature was 2·5° above it, and the local excess lasted through the two following months.

In March and April the temperature again fell gradually below the average; first in the delta and the lower part of the Gangetic plain, and afterwards more generally—the Central Provinces, Patna, Hazareebaugh and the stations on the east side of the bay being the last to remain above the mean. In May, owing doubtless to the early commencement of the rains, the depression of temperature below the average was universal, amounting to more than 4° at Nagpúr and Roorkee, and to between 3° and 4° at Cuttack, Jessore, Hazreebaugh, Berhampore, Monghyr, and Benares. With the exception of Patna and Madras, and one or two other stations temporarily, all the stations enumerated continued to enjoy a temperature below the average up to the end of the rains. At Benares, especially, the deficiency amounted to more than 2° throughout. In October, however, the fall of temperature was less than usual, and November and December were warmer than usual at nearly all the stations enumerated, especially at Cuttack, Benares and Patna, and in the Central Provinces.

Temperature of solar radiation.

Tables of the maximum temperature of solar radiation are given for nineteen stations, of which thirteen are complete, the remainder being deficient in the registers of one or more months, owing to the destruction of the instruments, and delay in replacing them.

At Vizagapatam the observations were made with an unprotected black bulb thermometer. At other stations with maximum thermometers on Negretti and Zambra's patented principle, enclosed in a vacuum tube; the thermometer bulb being coated with lamp black.

Table X.—Maximum, Minimum, and Mean monthly readings of the exposed Black-Bulb Thermometer in Vacuo.

	PORT BLAIR.					VIZAGAPATAM.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	ϴ	Day.	ϴ		Day.	ϴ	Day.	ϴ
January ...	150·9	27th	155·0	17th	147·0	110·4	21st	116·5	18th	102·0
February ...	154·6	19th	164·0	11th	141·0	112·1	19th	123·0	16th	104·5
March ...	160·7	1st	167·0	7th	153·0	115·6	14th	119·5	20th	110·0
April ...	159·8	23rd	169·0	1st	154·0	118·3	29th	129·5	4th	106·0
May ...	148·8	2nd	167·0	6th	108·0	121·7	28th	130·0	21st	114·0
June ...	134·7	22nd	150·0	19th	92·0	120·6	13th	138·0	25th	105·0
July ...	137·3	20th	155·0	15th & 16th	106·0	117·6	8th	132·0	20th	103·5
August ...	139·7	18th	160·0	25th	110·0	119·8	13th & 14th	132·0	23rd	102·0
September ...	141·4	2nd	165·0	7th	110·0	117·2	21st	131·0	11th	100·0
October ...	151·0	17th	166·0	21st	120·0	116·3	2nd	131·0	25th	102·0
November ...	147·9	11th	162·0	4th	90·0	109·9	9th	121·5	23rd	92·0
December ...	151·1	27th	158·0	8th	143·0	103·8	11th	112·0	12th	92·5

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	ϴ	Day.	ϴ		Day.	ϴ	Day.	ϴ
January ...	135·9	13th	142·0	5th & 6th	129·0	133·4	22nd	140·5	3rd	127·8
February ...	142·4	24th	154·0	17th	137·0	136·5	5th	141·0	17th	131·8
March ...	147·7	30th & 31st	156·0	2nd	97·0	135·5	9th	148 0	2nd & 3rd	102·2
April ...	154·9	18th	163·0	15th	139·0	138·3	27th	146·0	16th	127·0
May ...	153·0	17th	165·0	19th	143·0	141·6	19th	145·9	25th	133·3
June ...	139·3	6th	155·0	26th	86·0	129·8	20th	154·0	26th	84·0
July ...	141·1	6th	162·0	22nd	108·0	133·5	29th	154·8	22nd	94·0
August ...	137·2	30th	156·0	7th	84·0	137·3	29th	153·0	16th	88·0
September ...	142·1	7th	153·5	11th	99·0	139·3	6th	155·0	23rd	93·9
October ...	141·2	1st	154·0	11th	118·0	136·6	15th	148·0	25th	94·7
November ...	137·3	6th & 7th	142·0	29th & 30th	132·0	135·7	17th	148·0	21st	131·9
December ...	130·9	25th	141·0	30th	124·0	131·2	2nd	134·0	28th	127·0

	CHITTAGONG.					CALCUTTA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	Θ	Day.	Θ		Day.	Θ	Day.	Θ
January ...	137·6	18th	142·0	31st	132·0	132·4	24th	138·0	12th	123·8
February ...	143·7	20th	154·4	11th	138·4	138·1	24th	142·0	9th	134·0
March ...	142·2	28th	148·4	2nd & 3rd	121·0	142·2	23rd	148·8	4th	132·0
April	146·9	22nd	158·5	24th	123·0	143·0	28th	150·2	16th	128·3
May ...	148·6	13th	159·0	24th	117·0	144·4	18th	152·0	20th	120·0
June ...	136·5	6th	160·0	28th	91·0	135·8	14th	152·3	29th	110·5
July ...	139·2	9th	161·0	30th	97·0	137·2	11th	153·0	19th	110·5
August ...	142·5	5th	160·4	17th	94·0	140·6	30th	153·2	19th	115·0
September ...	145·5	22nd	157·0	13th	120·0	141·9	20th	153·0	23rd	114·0
October ...	141·4	7th	157·0	25th	83·0	145·6	7th	153·3	13th	127·0
November ...	141·6	20th	146·8	25th	135·6	140·4	17th	148·0	28th	136·4
December ...	135·2	18th	149·3	20th	129·1	133·3	23rd	138·5	14th	122·8

	JESSORE.					DACCA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	Θ	Day.	Θ		Day.	Θ	Day.	Θ
January ...	132·5	24th	137·0	5th	109·0	131·8	17th	137·0	6th	128·0
February ...	138·6	15th	144·0	17th	117·0	137·4	16th	146·1	17th	124·0
March ...	140·3	31st	152·2	2nd	88·0	140·0	31st	149·0	2nd	93·5
April ...	147·1	25th	154·9	22nd	132·6	147·6	25th	157·5	15th	134·0
May ...	147·8	1st	154·2	26th	119·0	146·5	23rd	158·3	26th	105·0
June ...	143·3	1st	153·0	5th	120·0	140·4	19th	157·0	27th	94·0
July ...	141·5	14th	151·0	30th	120·9	139·9	19th	160·5	30th	91·0
August ...	...	.....	...	.....	...	143·9	15th	155·0	24th	104·8
September ...	...	.....	...	.....	...	135·6	29th	157·0	2nd	93·0
October ...	...	.....	...	.....	...	144·3	2nd	153·2	25th	94·0
November ...	...	.....	...	.....	...	137·5	1st	148·0	27th	124·4
December ...	...	.....	...	.....	...	132·5	1st	143·0	20th	127·0

	CACHAR.					HAZAREEBAUGH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	126·9	15th	132·0	5th & 6th	120·0	135·4	17th	144·0	22nd	120·0
February ...	130·0	12th	139·0	17th	112·0	141·1	13th	150·0	17th	123·0
March ...	131·2	28th	146·0	3rd	86·0	148·2	30th	159·0	5th	137·0
April ...	135·8	28th	149·0	1st	99·0	157·9	14th	172·0	16th	131·0
May ...	141·7	24th	156·0	8th	129·0	156·4	18th	170·0	2nd	140·0
June ...	143·3	7th	160·0	9th	103·0	151·0	9th	166·0	29th	132·0
July ...	135·3	21st	157·0	20th	98·0	143·1	18th	156·0	8th	110·0
August ...	133·5	30th	152·0	14th	98·0					
September ...	135·1	20th	154·0	30th	95·0					
October ...	129·3	8th	156·0	12th	94·0	140·1	10th	154·0	25th	123·0
November ...	125·9	6th & 7th	134·0	26th	113·0	136·9	5th	158·0	29th	126·0
December ...	121·3	24th	132·0	19th	115·0	125·6	8th	134·0	23rd	90·0

	BERHAMPORE.					GYA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	131·5	31st	138·0	8th	120·0					
February ...	139·4	13th	146·5	17th	89·0					
March ...	142·7	24th	154·0	2nd	97·0	143·3	29th	154·0	1st	120·0
April ...	150·3	19th	157·0	15th	135·5					
May ...	150·5	29th	158·0	2nd	130·0	143·4	18th	160·0	21st	130·0
June ...	142·6	11th	158·0	26th	93·5	148·7	10th	163·0	22nd	134·5
July ...	138·9	28th	154·0	30th	108·0	137·5	7th	154·0	22nd	109·0
August ...	145·9	29th	160·0	21st	121·0	133·5	8th	148·0	17th	87·0
September ...	140·9	30th	154·0	14th	113·5	135·4	2nd	145·0	27th	101·5
October ...	143·3	5th	157·0	12th	101·0	132·8	4th	138·0	25th	128·0
November ...	138·5	2nd & 3rd	144·0	25th & 26th	132·0	126·9	12th	132·0	29th	119·5
December ...	129·9	3rd	134·0	28th	124·0	116·1	7th	122·0	24th	98·0

	PATNA.					MONGHYR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	121·5	1st	129·0	4th	113·0	130·6	30th & 31st	133·0	25th & 26th	128·0
February ...	130·8	19th	145·0	16th	95·0	137·9	15th	148·0	16th	125·0
March ...	145·8	25th	159·0	1st	130·0	147·2	29th	157·0	1st	125·0
April ...	152·7	23rd	161·0	22nd	142·0	154·9	8th	163·0	16th	146·0
May ...	151·5	18th	161·0	21st	139·0	153·5	13th	162·0	22nd	145·0
June ...	152·7	20th	161·0	27th & 28th	128·0	155·6	8th	161·0	22nd	150·0
July ...	143·1	26th	159·0	17th	98·0	146·5	29th	156·0	1st & 2nd	130·0
August ...	144·1	15th	160·0	22nd	107·0	147·9	11th	155·0	22nd	135·0
September ...						147·2	21st	152·0	27th	135·0
October ...						144·6	9th	151·0	27th & 28th	138·0
November ...	140·0	12th	146·0	27th	133·0	135·5	11th	144·0	30th	128·0
December ...	131·5	22nd	138·0	23rd	79·0	127·2	22nd	130·0	29th	122·0

	DARJEELING.					GOALPARAH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	106·8	31st	121·0	26th	88·0	131·0	30th	143·3	11th	123·0
February ...	130·7	25th	130·0	3rd	68·0	134·5	16th	141·7	17th	104·3
March ...	111·6	26th	133·0	3rd & 4th	72·0	135·7	30th	150·4	3rd	88·0
April ...	119·0	13th	134·0	20th	74·0	138·6	23rd	151·0	20th	99·1
May ...	125·9	21st	143·0	5th	80·0	145·2	22nd	158·1	25th	110·0
June ...	125·9	24th	150·0	22nd	93·0	149·3	15th	163·5	10th	88·0
July ...	121·3	29th	145·0	28th	88·0	147·1	11th	161·4	21st	120·2
August ...	123·8	6th	143·0	27th	89·0	152·8	14th	163·2	16th	134·0
September ...	123·2	12th	144·0	24th	78·0	149·8	19th	161·1	4th	126·1
October ...	130·1	9th	146·0	27th	103·0	142·3	7th	156·7	25th	102·2
November ...	116·3	28th	131·0	14th	83·0	135·1	20th	148·2	2nd	112·2
December ...	111·6	8th	125·0	22nd	92·0	126·7	22nd	136·2	23rd	122·2

	SHILLONG.					BENARES.				
	Mean.	Maximum.		Minimum.			Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	124·3	30th	128·0	17th	120·0					
February ...	120·4	25th.	130·5	17th	87·0					
March ...	130·5	25th	148·5	7th	82·0					
April ...	132·4	28th	148·5	3rd	85·0					
May ...										
June ...	138·1	23rd	157·0	9th	93·5					
July ...	132·7	4th	160·0	8th	94·5					
August ...	134·3	11th	160·0	26th	95·0					
September ...	138·6	10th	159·0	23rd	99·0					
October ...	143·9	3rd	150·0	16th	128·0					
November ...	140·0	1st	148·0	19th	100·0	136·0	5th	142·0	28th	129·0
December ...	126·3	21st	140·0	20th	101·0	124·2	6th	134·0	24th	93·0

ROORKEE.

	Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖
January ...	110·5	31st	124·0	16th	95·0
February ...	117·9	8th	123·5	21st	91·0
March ...	129·5	29th	140·0	2nd	109·0
April ...	138·5	29th	150·0	14th	98·0
May ...	140·4	6th	150·0	26th	115·0
June ...	137·1	3rd	152·0	20th & 21st	128·0
July ...	128·2	4th	146·0	16th	78·0
August ...	131·6	1st	147·0	8th	107·0
September ...	136·8	25th	143·0	7th	127·0
October ...	131·7	2nd	137·0	8th	126·0
November ...	122·3	6th	130·0	25th	117·0
December ...	111·5	3rd	125·0	23rd	85·0

The registers of solar radiation are at present far from sufficient to give even the approximate average values of this element at any station in Bengal, and any comparison of the registers of 1871, with the averages of the fragmentary registers of the last three years, would be of little or no value. Compared with the preceding year, the temperature of the solar radiation was generally greater in January and February 1871, and generally less in May. In June, and more or less throughout the rains, it was less at places lying south of the latitude of Calcutta, and greater at places to the north.

Temperature of Grass (Nocturnal) Radiation.

Tables of the temperature of nocturnal radiation are given for 14 stations. I omit Chittagong,* since the readings of the grass radiation thermometer have evidently been prejudicially affected by some cause which has yet to be traced. Three stations are defective in one or more month's registers. The instruments used are Rutherford's minimum thermometers, graduated on the stem; they are enclosed in strong glass tubes, with the bulbs of white glass projecting beyond the end. They are supported immediately above the ends of the grass on two forked sticks.

Table XI.—Maximum, Minimum and Mean Monthly readings of Exposed Grass Radiation Thermometers.

	SAUGOR ISLAND.					JESSORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day	⊖	Day.	⊖
January ...	50·6	26th	65·2	5th	35·8	44·5	18th	61·5	27th	37·9
February ...	63·9	24th	72·4	21st	53·8	53·6	24th	68 6	2nd	43·9
March ...	71·3	31st	78·0	5th	57·6	62·0	25th	71·2	18th	51·7
April ...	80·5	15th	88·8	17th	68·0	70·6	10th	78·9	17th	62·0
May ...	74·8	17th	81·8	5th	68·5	71·9	18th	77·0	5th	65·0
June ...	77·6	1st	83·0	24th	71·8	76·5	16th	79·0	29th & 30th	73 0
July ...	77·0	24th	80·7	1st	73·8	76·3	15th	78·2	1st	72·8
August ...	77·3	26th	80·7	19th	73·4	76·8	20th	79 0	23rd	74·2
September ...	76·3	30th	79·9	10th	74·0	76·3	4th	78·2	26th	73·6
October ...	71·4	3rd	79·5	31st	62·0	70·4	3rd	76·6	31st	61·0
November ...	62·5	16th	74·0	29th	53·6	56·5	3rd	66·0	28th	45·2
December ...	55·3	1st	69·4	30th	47·0	45·3	20th	54·9	29th	38·0

* This should also have been omitted from the register of 1870.

	DACCA.					CACHAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	47·9	24th	53·7	27th	41·8	46·4	3rd	57·0	15th	39·0
February ...	56·2	25th	67·2	2nd	48·0	53·5	26th	62·0	9th	49·0
March ...	63·8	26th	72·5	18th	51·4	58·2	28th	66·0	6th	47·0
April ...	69·0	9th	75·9	16th	62·2	67·3	28th	74·0	5th	60·0
May ...	71·7	24th	77·0	6th	65·0	69·8	30th	74·0	17th	60·0
June ...	76·6	19th	78·6	29th	72·5	76·3	21st	79·0	2nd	71·0
July ...	76·7	8th	79·0	16th	73·0	74·7	26th	76·0	22nd	73·0
August ...	77·1	6th	79·5	25th	75·0	75·4	13th	78·0	30th	73·0
September ...	76·6	22nd	78·0	25th & 26th	74·5	75·5	10th	79·0	24th	73·0
October ...	71·6	26th	78·7	20th	64·6	70·5	5th	76·0	29th	61·0
November ...	59·9	9th	67·5	27th	53·1	59·1	1st	64·0	28th	55·0
December ...	50·3	20th	59·6	14th	44·0	49·9	1st	58·0	31st	45·0

	HAZAREEBAUGH.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	39·8	17th	52·0	5th	30·0	47·0	18th	58·5	27th	39·0
February ...	46·0	24th	56·0	27th	38·0	55·1	25th	63·5	4th	49·0
March ...	52·0	25th	64·0	5th	40·0	58·1	31st	67·0	1st	49·5
April ...	59·5	20th	65·0	24th	55·0	70·2	10th	76·0	22nd	62·5
May ...	65·1	10th	88.0	3rd	56·0	71·5	31st	76·0	5th	64·5
June ...	68·3	20th	71·0	4th	62·0	76·7	20th & 21st	79·0	28th	74·5
July ...	67·6	7th	70·0	17th	62·0	76·8	8th	79·5	1st	74·5
August ...	68·1	14th	71·0	28th	64·0	77·1	15th	79·0	25th	74·5
September ...	66·8	25th & 26th	68·0	30th	64·0	75·9	2nd	79·0	27th	74·5
October ...	56·1	9th	65·0	29th & 30th	49·0	71·6	11th	77·0	29th	64·0
November ...	48·9	1st	54·0	22nd	43·0	58·1	2nd	67·0	30th	45·0
December ...	41·2	24th	56·0	22nd	29·0	50·0	25th	57·0	27th	41.0

	GYA.					PATNA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...						39·5	16th	54·0	27th	32·0
February ...						47·3	24th	59 0	2nd	40·0
March ...	59·7	15th	69·0	5th	49·0	53·6	31st	60·0	3rd	44·0
April ...	70·3	12th	74·5	16th	64·0	65·5	20th	70 0	24th	62 0
May ...	73·7	26th	80·0	10th	66·0	70·3	20th	77·0	3rd—5th	64·0
June ...	77·4	8th	82·0	20th	71·0	76 0	8th	79·0	29th	71·0
July ...	75·5	28th & 29th	78·0	24th	71·0	76·4	27th & 28th	79·0	1st	70·0
August ...	74·9	7th	78·0	18th	71·5	76·4	15th	79·0	21st	73 0
September ...						74·2	21st & 22nd	78·0	27th	67 0
October ...	67·6	13th	73·0	20th	60·5	69·3	1st—3rd	76·0	30th & 31st	62·0
November ...	56·3	2nd	63·5	29th	49·0	55·5	1st & 2nd	62·0	28th	46 0
December ...	48·7	23rd	62·0	3rd & 4th	41·0	46·9	23rd	54·0	4th	41·0

	MONGHYR.					DARJEELING.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	43.4	17th	53·0	28th	37·0	30·4	23rd	34·0	28th	27·0
February ...	44·8	17th	54 0	27th & 28th	39·0	35·8	9th	42·9	19th	28·0
March ...	53 6	31st	62·0	6th	44·0	35·6	24th	41·0	7th & 8th	28·0
April ...	62·6	23rd	68·0	8th	53·0	42·8	20th	46·9	1st	39·0
May ...	67·1	31st	74·0	8th & 9th	60·0	47·7	26th	54·8	6th	40·0
June ...	75·9	20th	79·0	28th & 29th	73·0	55·8	20th	60·8	23rd	52·8
July ...	74·0	7th—9th	76·0	1st	71·0	56·0	13th	58·8	22nd	51·8
August ...	73·0	14th & 15th	76·0	28th	70·0	55·0	20th	57·8	3rd	50·8
September ...	71·6	30th	74·0	22nd	69·0	51·6	20th	53·8	28th	48·9
October ...	64·0	1st & 2nd	73·0	29th	54·0	44·0	5th	51·8	27th	39·0
November ...	50·1	1st	56·0	30th	44·0	38·4	4th	41·9	26th	35·0
December ...						31·6	1st	36·0	14th	27·0

	GOALPARAH.					SHILLONG.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	50·8	18th	55·0	14th	43·4	35·6	18th	48·0	14th	28·0
February ...	56·2	17th	63·0	20th	47·5	42·5	28th	59·5	19th	32·5
March ...	57·8	26th	64·9	6th	48·0	46·5	25th	58·5	6th	34·5
April ...	64·9	7th	71·5	1st	60·1					
May ...	69·1	18th	75·2	1st	62·2					
June ...	75·2	16th	78·0	10th	73·0					
July ...	75·1	26th	76·7	1st	73·2	61·7	27th	63·5	10th	59·5
August ...	75·7	14th	77·1	29th	74·0	61·5	25th	65·5	30th	57·0
September ...	74·2	9th	76·9	25th	72·0	58·1	9th	63·0	27th	53·5
October ...	69·2	12th	74·2	28th	62·9	51·8	11th	60·0	21st	42·5
November ...	60·5	2nd	67·1	24th	56·2	42·5	19th	49·5	24th	38·5
December ...	52·2	1st	59·2	12th	45·2	34·1	1st	42·0	13th	28·5

	BENARES.					ROORKEE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	35·1	16th	49·0	26th	26·0	35·5	17th	48·0	12th	23·0
February ...	42·6	25th	53·0	28th	35·0	45·4	13th	57·0	4th	36·0
March ...	45·6	3rd	54·0	6th	38·0	44·0	31st	65·0	5th	33·0
April ...	57·0	23rd	65·0	5th—7th	50·0	60·5	25th	70·0	6th	52·0
May ...	67·2	21st	74·0	3rd	59·0	70·9	26th	81·0	5th	64·0
June ...	73·3	15th	78·0	30th	70·0	76·7	19th-21st	82·0	23rd	69·0
July ...	72·5	28th	75·0	26th	70·0	75·9	28th	80·0	24th	70·0
August ...	71·5	13th & 14th	74·0	19th	69·0	76·2	20th & 21st	79·0	23rd	58·0
September ...	70·5	12th	74·0	29th	65·0	73·3	9th	77·0	30th	64·0
October ...	56·1	3rd	63·0	28th	48·0	57·7	12th	64·0	28th	48·0
November ...	44·5	15th	50·0	27th	38·0	44·2	7th	53·0	26th	32·0
December ...	42·5	24th	60·0	3rd	27·0	39·5	26th	53·0	27th	27·0

Humidity.

The humidity of the air is deduced from the readings of the dry and wet-bulb thermometers, by the use (except at Calcutta) of Guyot's tables, which have been computed with August's formula, as modified by the introduction of Regnault's constants, (see Report for 1868). The mean of the four readings is assumed as the mean of the day. That this assumption involves no error of importance in the case of Calcutta (the only station at which hourly readings have been recorded) was shewn in the Report for 1868, by a comparison of the means of the six-hourly and hourly readings. The greatest error amounted to 2 per cent. of saturation; but it must be observed that this occured in the driest month (March), and it is not improbable, therefore, that were a similar comparison, instituted with observations made in a dry climate such as the N. W. Provinces or the Punjab, a greater difference might be found. The mean diurnal curve of humidity in every month of the year at Calcutta is an exact inversion of the temperature curve for the same month.

In the Calcutta registers the humidity is computed by the use of Glaisher's factors.

In Table XIII is given the average value of this element, as deduced from the registers of the last four years. Since there is, at present, no method by which the mean humidity of the day can he satisfactorily computed from the two observations at 10h and 16h, the Table is divided into two sections; of which the first shews the approximate mean humidity of the stations, at which six-hourly observations have been made, while the second gives the arithmetical means of certain observations only; the value of which, relatively to the first, cannot be determined at present.

In Table XIV the deviation of the mean humidities of 1871, from the values in Table XIII, is given under two headings corresponding to those of the latter Table.

Table XII.—Mean Humidity for 1871.

	PORT BLAIR.					MADRAS.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...			74	71				64	62	
February ...			72	65				59	62	
March ...			68	62				57	59	
April ...			68	65				56	64	
May ...			80	79				45	58	
June ...			80	79				45	54	
July ...			80	79				53	54	
August ...			80	79				52	53	
September ...			82	80				56	58	
October ...			79	76				65	65	
November ...			72	70				77	76	
December ...			68	66				64	63	

	VIZAGAPATAM.					AKYAB.				
	Mean.	4h.	10th.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	67	71	64	64	70	72	78	73	61	77
February ...	68	72	66	64	70	73	82	72	61	79
March ...	63	69	58	56	69	74	79	73	68	78
April ...	70	74	64	69	73	77	85	72	72	81
May ...	70	72	67	69	72	85	88	81	81	88
June ...	69	71	67	67	70	90	91	89	89	91
July ...	71	74	70	69	72	89	90	88	88	89
August ...	72	75	69	70	74	87	89	87	85	89
September ...	73	76	70	70	75	86	90	86	81	88
October ...	63	69	58	58	69	84	89	84	78	87
November ...	63	67	59	60	65	79	87	79	68	82
December ...	64	69	61	61	67	75	82	77	62	78

	FALSE POINT.					CUTTACK.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	74	78	71	68	78	69	83	67	47	79
February ...	78	78	79	74	79	69	86	68	43	79
March ...	77	81	74	74	80	64	85	60	36	74
April ...	85	84	85	86	86	70	84	66	53	76
May ...	84	85	82	83	86	74	88	66	58	83
June ...	87	88	85	86	88	79	89	73	69	84
July ...	88	90	87	87	89	85	93	80	77	90
August ...	89	91	88	88	90	83	92	78	75	87
September ...	88	90	86	86	88	85	93	79	78	92
October ...	78	81	77	75	78	73	89	63	57	85
November ...	71	78	71	67	68	67	88	58	42	81
December ...	77	84	74	71	78	67	87	59	44	80

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	74	88	69	54	83	70	86	65	51	77
February ...	79	89	76	65	86	72	89	66	52	83
March ...	80	86	76	73	87	75	90	65	60	86
April ...	84	88	80	79	89	84	93	76	80	89
May	84	90	81	79	88	84	93	77	78	89
June ...	89	91	87	86	90	89	93	86	87	92
July ...	88	92	85	84	89	89	93	83	86	92
August ...	88	93	85	84	91	88	92	83	84	92
September ...	88	92	86	85	89	86	94	79	80	92
October ...	83	91	80	74	89	83	93	77	74	88
November ...	77	90	73	61	85	76	90	69	62	84
December ...	77	91	71	59	85	73	90	69	56	79

	CALCUTTA.					JESSORE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	66	81	60	45	78	69	92	56	41	86
February ...	68	87	67	42	77	66	91	56	37	82
March ...	71	89	69	46	80	67	91	59	40	78
April ...	80	89	77	67	87	76	89	68	63	84
May ...	81	91	77	68	87	81	93	71	70	89
June ...	89	94	86	85	92	90	95	87	86	94
July ...	89	94	85	83	92	88	95	83	83	91
August ...	89	95	86	83	93	88	95	83	82	93
September ...	89	95	84	84	93	87	95	81	80	92
October ...	79	92	73	63	87	82	95	72	69	91
November ...	72	87	65	51	84	75	95	60	52	93
December ...	70	85	64	51	80	75	95	61	52	92

	DACCA.					CACHAR.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	69	86	63	50	79	81	93	80	59	93
February ...	57	78	48	35	66	76	94	71	51	88
March ...	69	88	65	45	79	78	94	70	61	88
April ...	77	91	72	66	81					
May ...	83	92	77	71	90					
June ...	89	94	85	85	93	87	95	84	77	91
July ...	89	94	86	83	92	88	97	85	79	90
August ...	88	95	84	81	92	88	95	85	80	92
September ...	87	94	82	80	92	87	94	84	77	91
October ...	81	94	71	70	90	84	94	80	72	91
November ...	70	87	60	53	82	81	92	79	62	89
December ...	64	80	56	45	74	78	92	80	53	89

	HAZAREEBAUGH.				BERHAMPORE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	44	58	39	31	49	67	88	61	43	78
February ...	42	55	37	27	49	61	85	53	36	70
March ...	29	39	25	18	34	54	76	50	31	60
April ...	35	47	30	25	37	70	91	68	46	75
May ...	55	71	49	38	61	78	90	71	66	84
June ...	79	89	73	71	82	87	94	83	80	93
July ...	86	93	82	79	91	87	94	83	78	92
August ...	87	94	82	81	92	85	92	80	79	90
September ...	85	94	79	79	90	84	91	82	77	88
October ...	60	76	50	47	69	74	86	67	61	83
November ...	46	61	37	35	53	71	86	62	54	83
December ...	52	64	45	37	62	70	86	63	47	84

	GYA.					PATNA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...						73	86	64	57	86
February ...						65	83	56	43	79
March ...	28	39	25	14	34	52	71	42	30	63
April ...	34	46	31	18	39	54	71	49	37	61
May ...	59	75	55	44	63	64	82	59	45	72
June ...	71	82	67	59	75	69	85	61	55	76
July ...	84	91	80	76	89	83	89	79	77	87
August ...	83	90	77	78	88	83	88	79	77	86
September ...	81	90	73	73	88	82	87	80	77	84
October ...	62	75	56	47	70	69	81	61	56	79
November ...	50	69	43	32	55	57	69	49	42	67
December ...	57	75	48	38	69	55	60	54	47	61

	MONGHYR.					DARJEELING.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	64	78	60	46	72	72	85	56	64	88
February ...	63	75	59	52	66	83	95	72	72	92
March ...	49	60	46	36	53	75	84	62	68	85
April ...	52	68	47	37	57	78	88	69	68	88
May ...	66	82	59	51	74	80	90	75	68	88
June ...	79	91	73	67	85	92	99	87	85	97
July ...	87	92	85	82	90	93	99	89	86	99
August ...	86	92	83	81	89	91	97	86	86	95
September ...	89	93	85	87	91	90	97	83	85	95
October ...	74	85	68	65	78	71	76	62	67	78
November ...	61	76	59	41	69	81	89	68	77	91
December ...	63	73	61	48	69	72	81	58	67	80

	GOALPARAH.					SHILLONG.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	74	91	72	57	75	69	68	61	70	76
February ...	66	85	65	49	65	70	72	61	70	76
March ...	67	86	61	52	71	66	69	60	67	69
April ...	78	92	76	66	77	68	69	63	67	73
May ...	80	91	79	69	83					
June ...	89	95	87	84	91	87	92	83	84	89
July ...	88	94	86	84	90	88	92	85	84	90
August ...	88	95	84	83	90	89	93	86	85	92
September ...	88	96	85	83	89	87	91	81	85	91
October ...	82	93	80	71	85	86	90	79	85	88
November ...	77	94	71	65	80	81	87	69	83	87
December ...	71	89	65	57	74	73	76	57	79	80

	BENARES.					ROORKEE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January	65	87	51	39	85	64	84	63	40	68
February	61	86	47	33	77	66	86	61	42	76
March	44	68	30	18	61	41	68	33	16	47
April	39	60	27	20	50	33	50	24	17	42
May	52	69	46	33	60	49	65	42	32	58
June	71	82	65	60	77	71	83	67	57	79
July	85	93	81	77	91	81	89	76	72	86
August	84	91	80	76	91	81	90	77	71	88
September	85	95	74	79	93	74	89	68	58	83
October	68	93	50	40	88	63	86	47	38	80
November	59	86	39	31	81	59	83	41	29	83
December	68	89	55	42	85	66	83	57	43	80

Table XIII.—Monthly mean humidities of several stations deduced from the registers of 1868-1871.

A.—MEANS OF FOUR OBSERVATIONS DAILY.

	Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.
Akyab	2-4	78	76	75	77	81	86	88	86	86	84	80	77
Cuttack	4	69	67	65	67	69	77	82	82	83	77	68	67
False Point	4	79	80	81	84	84	83	84	84	82	78	69	73
Saugor Island	3-4	75	79	80	81	82	85	87	88	88	84	76	76
Calcutta	4	66	66	67	72	76	84	87	88	88	80	71	68
Chittagong	3-4	71	73	75	81	82	87	88	89	87	83	77	73
Hazareebaugh	3-4	51	41	39	38	45	72	87	85	84	66	51	51
Dacca	4	65	60	65	71	79	85	86	86	85	79	69	66
Berhampore	3-4	67	59	53	63	70	83	86	85	85	77	71	70
Patna	3-4	62	54	44	42	53	66	83	83	83	74	66	62
Darjeeling	4	77	81	69	75	82	91	92	92	90	79	76	74
Roorkee	4	63	65	54	39	36	54	77	76	73	60	57	62

B.—MEANS OF TWO OBSERVATIONS DAILY.

Port Blair	4	71	71	67	68	81	82	83	82	83	80	73	70
Madras	4	64	60	59	59	53	53	56	59	62	67	71	65
Nágpúr	3	44	36	32	24	24	53	74	68	71	50	48	47
Jabalpúr	3	42	35	29	21	22	47	62	64	66	54	44	43
Benares	3-4	48	35	27	22	28	51	72	70	75	49	41	47

Table XIV.—Comparison of the mean humidities of each month of 1871, with the average values in Table XIII.

A.—MEANS OF FOUR OBSERVATIONS DAILY.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.
Akyab	—6	—3	—1	0	+4	+4	+1	+1	0	0	—1	—2
Cuttack	0	+2	—1	+3	+5	+2	+3	+1	+2	—4	—1	0
False Point	—5	—2	—4	+1	0	+4	+4	+5	+6	0	+2	+4
Saugor Island	—1	0	0	+3	+2	+4	+1	0	0	—1	+1	+1
Calcutta	0	+2	+4	+8	+5	+5	+2	+1	+1	—1	+1	+2
Chittagong	—1	—1	0	+3	+2	+2	+1	—1	—1	0	—1	0
Hazareebaugh	—7	+1	—10	—3	+10	+7	—1	+2	+1	—6	—5	+1
Dacca	+4	—3	+4	+6	+4	+4	+3	+2	+2	+2	+1	—2
Berhampore	0	+2	+1	+7	+8	+4	+1	0	—1	—3	0	0
Patna	+11	+11	+8	+12	+11	+3	0	0	—1	—5	—9	—7
Darjeeling	—5	+2	+6	+3	—2	+1	+1	—1	0	—8	+5	—2
Roorkee	+1	+1	—13	—6	+13	+17	+4	+5	+1	+3	+2	+4

B.—MEANS OF TWO OBSERVATIONS DAILY.

Port Blair	—2	—2	—2	—1	—1	—2	—3	—2	—2	—2	—2	—3
Madras	—1	+1	—1	+1	—1	—3	—2	—6	—5	—2	+6	—1
Nágpúr	—3	+3	—8	0	+7	+6	—3	—4	—3	—15	—6	—4
Jabalpúr	+4	+7	—9	—1	+12	+15	+17	+13	+10	—1	—2	—6
Benares	—3	+5	—3	+2	+12	+12	+7	+8	+2	—4	+6	+2

The tables of mean humidity A. and B. are by no means comparable with each other, since the latter, drawn up from observations at 10h. and 16h. only, represents an average much below the mean of the twenty-four hours, while Table A, which is based on observations recorded day and night at six-hour intervals, represents approximately the real average. They do not, therefore, serve to shew with any exactness the distribution of humidity over the whole area which they represent; but either table, taken by itself, suffices to indicate the general character of that distribution, which, indeed, is extremely simple.

As a general rule, stations on the coast have at all times of the year a more humid atmosphere than those which lie inland, but the rate of decrement is very different at different seasons. The only exception to this rule, shewn in the table, is afforded by Darjeeling, where the humidity from June to September exceeds that of any other station, either on the coast or elsewhere. All parts of the coast are not alike. In the earlier months of the year (January to March) Saugor Island and False Point* have a higher humidity than Chittagong and Akyab respectively, but in the S. W. Monsoon this relation is reversed. At Saugor Island and Chittagong January is the driest month and August, or August and September the most humid; the annual range on the means of the months being 13 per cent. in the former case and 18 per cent. in the latter. At Akyab the annual range is only 11 per cent., and here March is the driest and July the most humid month. At False Point, again, November is the month of lowest humidity, and from April to August the amount of moisture scarcely varies, and is about 15 per cent. higher than in November.

Proceeding inland a distance of 50 or 60 miles suffices to cause a marked diminution of humidity in the cold and hot weather months, and consequently an increased annual range. In Calcutta, March is the driest month on the average of 16 years, although according to the present table January and February range a little lower. At Cuttack and Berhampore the minimum humidity is also in March, at Dacca in February; and July and August or August and September are the months when the percentage of moisture is a maximum. The annual range on the means of the months is 18 per cent. at Cuttack, 22 per cent. at Calcutta, 26 per cent at Dacca, and 32 per cent. at Berhampore. Still further inland, at Hazareebaugh and Patna, the epoch of the minimum falls later in the year, *viz.*, in April, but the maximum is at the same period as at stations nearer the coast, and while this latter is only from 1 to 4 per cent. lower than at stations near the sea, the relative deficiency of moisture in April amounts to a difference of 30 per cent. or more, so that the annual range at these two stations is not less than 49 and 41 per cent. The greater dryness of Hazareebaugh, as compared with Patna, which is further inland, is doubtless due to the fact that the former is situated on a water-shed far from any large river, while the latter is on the banks of the Ganges, at all times of the year

* If, indeed, the hygrometer of False Point be not affected by some cause of error, this station is more humid than Akyab up to May.

a considerable stream. At Benares, as at Patna, April is the driest month; at Nágpúr and Jabalpúr, April and May are about equal; and finally, at Roorkee, May is the month of greatest siccity. Here, however, the humidity of the rainy months is so much lower than in Bengal that the annual range does not amount to more than 43 per cent., or but little more than at Patna. At this station and at Benares there appears to be a subordinate minimum in November, and an increase in December and January. This is, doubtless, to be attributed to the fall of temperature, while the quantity of water vapour in the air does not undergo a proportionate decrease.

The deviation of the mean humidity of each month of 1871 from the averages at different stations is shewn in Table XIV to have been very irregular. The humidity was exceptionally high at Patna during the first five months of the year, and equal to or below the average during the last four months. At Jabalpúr, Benares, and Roorkee, the first especially, it was unusually high from May to September. It was generally a little above the average in February, except at Dacca and stations on the coast line. In March this was the case only in the Delta and the lower Gangetic plain. In April this excess increased, and in May and June it was very general over the whole of Northern and Central India, while Port Blair and Madras were rather below the average. During the rains, the difference become less, with the exceptions already mentioned, and in October the humidity was generally about the average, or a little below it. This last was especially the case at Nágpúr. In the last two months of the year the humidity was somewhat greater than usual at False Point, Saugor Island, Calcutta, Benares, and Roorkee; in November also at Madras and Darjeeling; while in the Central Provinces and Patna it was decidedly below the mean. On the whole, in 1871, the air was unusually moist, and, as will presently be seen, the rainfall was early and heavy.

Serenity.

In the following tables are given the mean proportions of unclouded sky as estimated at the regular hours of observation. A clear unclouded sky is designated by 10, an overcast sky as 0. Calcutta and False Point do not furnish these observations. The first is not subject to the Meteorological Department, and the position of the observatory (surrounded by high buildings) is unfavourable for sky observations. At the second it has not been thought advisable to require them. Day observations only have been recorded at Port Blair, Darjeeling, and Roorkee up to December. The registers of Gya and Shillong are incomplete.

In Table XVI I give the average serenity of the last three years for those stations that have furnished complete registers. The period is too short to furnish a quite trustworthy average, and I abstain, therefore, from attempting a detailed comparison of the results of 1871, with the values therein given. Only the more prominent features will be noticed.

Table XV.—Mean Serenity of 1871.

	PORT BLAIR.					VIZAGAPATAM.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·49		7·68	7·29		7·83	8·15	7·42	7·98	7·79
February ...	7·76		7·67	7·85		8·62	9·04	8·07	8·89	8·48
March ...	8·36		8·23	8·48		8·85	9·35	8·65	8·44	8·97
April ...	6·11		6·27	5·94		6·78	7·02	7·93	6·37	5·80
May ...	4·33		4·84	3·81		4·73	3·90	4·73	5·77	4·52
June ...	4·30		4·50	4·10		3·17	3·45	3·43	2·50	3·30
July ...	3·89		4·10	3·68		2·88	2·42	2·26	3·15	3·71
August ...	4·52		5·00	4·03		3·21	4·32	3·60	2·10	2·84
September ...	4·09		4·47	3·70		4·05	4·68	3·48	3·67	4·38
October ...	5·21		5·45	4·97		6·86	7·29	6·50	6·26	7·39
November ...	6·74		6·64	6·84		6·37	6·87	6·42	5·57	6·62
December ...	6·97		7·13	6·81		7·81	8·35	7·59	7·42	7·90

	AKYAB.					CUTTACK.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	8·27	8·65	7·68	7·90	8·84	9·08	8·87	8·74	9·19	9·52
February ...	8·68	7·79	8·29	8·96	9·68	9·67	10·00	9·64	9·39	9·64
March ...	8·48	9·10	7·87	8·39	8·58	8·70	8·74	8·58	8·45	9·03
April ...	7·78	7·83	6·80	8·10	8·40	6·06	5·83	7·53	5·37	5·50
May ...	4·77	4·93	4·29	5·00	4·87	5·86	5·94	6·77	5·81	4·94
June ...	1·40	2·27	0·67	4·10	1·57	1·82	1·83	1·80	1·63	2·03
July ...	0·61	0·32	0·65	0·58	0·90	2·42	2·74	2·35	2·71	1·90
August ...	0·71	0·52	0·65	0·74	0·94	2·64	2·94	3·13	2·23	2·26
September ...	0·93	0·90	1·13	0·77	0·93	4·04	5·07	3·20	2·50	5·40
October ...	3·49	3·29	3·55	3·61	3·52	8·06	8·77	8·23	6·84	8·39
November ...	7·17	6·70	7·80	6·47	7·73	8·96	9·60	9·07	8·33	8·83
December ...	7·41	8·13	7·42	6·68	7·42	8·97	9·65	8·45	8·39	9·39

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	8·57	8·97	8·19	8·10	9·03	9·68	9·52	9·65	9·61	9·94
February ...	8·83	8·86	8·54	8·79	9·14	9·26	8·64	9·07	9·50	9·82
March ...	6·25	8·55	3·84	4·29	8·32	8·06	7·58	7·58	8·64	8·45
April ...	3·95	4·90	2·77	2·80	5·33	5·93	5·90	5·43	6·10	6·30
May ...	4·17	5·32	4·16	4·06	3·16	5·17	5·06	5·10	4·77	5·77
June ...	1·82	1·40	1·40	1·73	2·76	2·23	1·53	2·10	2·13	3·17
July ...	1·59	1·71	1·06	1·06	2·55	2·49	3·03	2·74	1·68	2·52
August ...	1·94	2·03	1·55	1·61	2·58	2·95	3·29	3·45	2·58	2·48
September ...	2·94	3·83	1·77	1·43	4·73	3·48	3·37	3·97	3·13	3·47
October ...	6·56	7·03	6·06	5·71	7·45	6·21	5·81	5·42	6·58	7·03
November ...	8·43	9·30	7·83	7·33	9·27	9·50	9·67	9·23	9·17	9·93
December ...	8·77	9·13	8·35	8·13	9·48	9·58	9·90	9·61	9·13	9·68

	JESSORE.					DACCA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	9·31	9·42	9·23	9·19	9·39	8·81	8·84	8·90	8·52	9·00
February ...	8·77	8·04	8·93	8·82	9·31	8·87	8·93	8·54	9·11	8·89
March ...	8·42	7·45	8·77	8·39	9·06	8·05	8·13	7·74	8·26	8·06
April ...	6·48	6·37	7·37	5·60	6·57	4·66	4·45	4·23	4·53	5·43
May	5·75	6·74	6·03	4·71	5·52	4·32	4·77	4·23	4·74	3·55
June ...	1·29	0·93	1·23	1·27	1·73	1·80	2·00	0·70	1·77	2·73
July ...	2·90	2·32	2·74	3·10	3·45	1·63	0·81	0·94	2·29	2·48
August ...	3·53	3·00	3·16	4·03	3·94	1·64	0·42	1·74	2·19	2·23
September ...	4·39	5·00	3·90	3·93	4·73	2·35	2·33	2·33	1·97	2·77
October ...	7·27	7·58	6·84	6·65	8·00	6·47	6·39	5·84	6·16	7·48
November ...	9·60	9·67	9·43	9·50	9·80	9·41	9·33	9·50	9·33	9·50
December ...	9·35	9·32	9·29	9·19	9·61	9·09	8·87	9·48	8·68	9·35

	CACHAR.					HAZAREEBAUGH.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	8·78	8·63	8·10	8·97	9·42	7·54	7·42	7·55	7·42	7·77
February ...	8·55	8·96	8·11	8·48	8·67	8·14	8·36	8·43	7·71	8·07
March ...	6·97	7·23	7·48	6·94	6·23	8·62	9·03	8·84	7·97	8·65
April ...	6·18	6·17	6·96	6·73	4·86	6·25	7·34	7·48	4·60	5·60
May ...	6·02	6·52	5·52	6·45	5·61	5·35	5·84	5·97	3·74	5·84
June ...	4·15	5·07	4·70	3·63	3·20	1·97	2·70	1·97	1·70	1·53
July ...	2·97	3·48	1·52	4·29	2·58	1·18	0·65	0·90	1·65	1·52
August ...	3·30	2·45	3·68	4·42	2·65	1·08	0·71	1·39	1·23	1·00
September ...	3·59	3·27	3·33	4·10	3·66	1·19	1·20	1·20	1·23	1·13
October ...	6·64	5·52	5·94	7·13	7·97	7·77	8·16	8·23	6·84	7·87
November ...	8·76	8·20	8·70	8·90	9·23	8·15	8·47	8·53	7·60	8·00
December ...	8·44	7·94	7·23	9·61	8·97	7·81	7·68	7·65	7·26	8·65

	BERHAMPORE.					GYA.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	8·23	8·35	8·03	7·90	6·65					
February ...	8·74	8·82	8·46	8·18	9·50					
March ...	8·24	8·32	7·90	7·97	8·77	8·78	9·09	8·68	8·45	9·00
April ...	5·97	6·73	6·10	4·87	6·20	7·94	8·03	7·83	7·33	8·57
May ...	4·67	5·13	4·61	3·58	5·35	6·12	5·58	5·52	5·81	7·58
June ...	0·62	0·73	0·40	0·40	0·97	3·57	3·97	2·80	2·63	4·87
July ...	1·04	0·77	0·65	1·10	1·65	1·94	1·28	2·16	1·65	2·68
August ...	1·21	1·13	1·13	1·35	1·23	2·15	1·71	1·81	1·65	3·42
September ...	1·40	1·27	0·97	0·87	2·50	2·90	2·87	3·77	2·17	2·79
October ...	7·01	6·97	6·32	6·90	7·87	9·16	9·68	8·94	8·71	9·32
November ...	9·02	9·37	9·00	8·13	9·57	9·47	9·15	9·63	9·50	9·59
December ...	8·82	9·35	8·71	8·00	9·23	7·79	7·87	7·47	7·35	8·47

	PATNA.					MONGHYR.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·64	7·68	7·90	7·16	7·81	8·60	8·97	8·39	8·32	8·74
February ...	7·93	8·43	7·96	6·89	8·43	8·98	9·50	8·68	8·36	9·39
March ...	8·53	8·19	9·03	8 35	8·55	9·05	8·90	9·13	9·39	8·77
April ...	7·46	8·00	6·43	7·23	8·17	8·20	8·55	8·27	7·57	8·43
May ...	5·59	7·26	4·32	4·77	6·03	5·92	6·10	5·32	5·10	7·16
June ...	4·06	5·73	2·90	2·90	4·73	3·32	3·97	1·73	2·83	4·77
July ...	1·52	0·97	1·23	1·71	2·16	2·00	2·23	1·35	1·61	2·81
August ...	0·95	0·90	0·68	0·74	1·48	2·21	2·32	1·81	2·16	2·55
September ...	1·38	1·47	1·17	1·33	1·57	1·98	2·10	1·83	1·90	2·10
October ...	8·75	9·13	8·42	8·23	9·23	8·12	8·35	7·61	8·06	8·48
November ...	8·75	8·90	8·23	8·63	9·26	8·84	8·63	9·13	8·87	8·73
December ...	7·81	8·23	7·39	7·32	8·32	7·66	7·97	7·19	6·97	8·52

	DARJEELING.					GOALPARAH.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	5·18		5·97	4·39		7·10	6·65	7·48	6·39	7·87
February ...	3·27		3·36	3·18		7·17	7·11	7·43	6·18	7·96
March ...	3·45		4·29	2·61		7·01	6·68	6·90	6·35	8·13
April ...	4·20		4·07	4·33		4·65	3·50	4·23	5·33	5·53
May ...	3·14		2·45	3·84		3·44	2·29	3·42	4·10	3·94
June ...	1·78		1·07	2·50		1·49	0·83	1·50	1·27	2·37
July ...	1·19		0·90	1·48		1·57	1·23	1·42	1·68	1·94
August ...	1·73		1·52	1·94		1·68	1·10	1·68	1·32	2·61
September ...	1·87		1·97	1·77		2·86	1·93	3·13	2·53	3·87
October ...	5·06		5·81	4·32		4·96	3·58	4·45	4·74	7·06
November ...	2·88		3·77	2·00		6·25	4·73	6·66	6·03	7·60
December ...	4·85		5·65	4·06		7·10	6 74	7·55	6·42	7·68

	SHILLONG.					BENARES.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	7·24	7·84	8·58	4·84	7·71	7·62	7·77	6·90	7·32	8·48
February ...	6·07	6·57	7·54	4·18	6·00	7·57	8·07	7·54	7·14	7·54
March ...	6·35	6·06	7·97	5·13	6·23	8·80	9·10	9·03	8·32	8·77
April ...	4·88		5·40	4·37		7·07	6·63	7·53	6·73	7·40
May ...						6·01	5·19	4·64	6·65	7·55
June ...	2·17	2·83	2·03	2·67	1·16	3·11	3·79	2·80	2·63	3·24
July ...	1·38	1·39	0·87	1·42	1·84	1·42	1·73	0·74	1·35	1·87
August ...	1·54	1·29	1·68	1·19	2·00	1·38	1·29	0·84	1·23	2·16
September ...	2·26	2·17	2·93	1·03	2·90	2·42	2·76	1·83	2·07	3·03
October ...	4·22	4·29	5·16	2·35	5·10	9·56	9·71	9·45	9·23	9·86
November ...	6·21	8·73	7·37	2·34	6·44	8·62	9·00	8·20	8·30	9·00
December ...	6·95	7·55	8·42	4·16	7·68	7·32	7·90	6·68	6·52	8·17

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January	7·30		7·32	7·29	
February	6·25		6·43	6·07	
March	7·82		7·87	7·77	
April	6·85		6·70	7·00	
May	6·90		7·06	6·74	
June	3·23		2·70	3·77	
July	2·52		2·23	2·81	
August	2·77		2·71	2·84	
September	5·88		5·66	6·10	
October	9·93		9·90	9·97	
November	8·96		8·83	9·10	
December	7·37	8·00	6·61	6·32	8·55

Table XVI.—Average estimated serenity at several stations deduced from the Registers of the years 1869-71.

	Years.	January.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.
Port Blair	3	6·37	6·32	7·61	5·67	3·85	3·20	3·30	3·61	3·50	4·46	5·92	6·50
Cuttack	3	7·65	8·79	7·05	5·90	5·88	2·81	1·99	3·29	3·68	5·98	8·48	8·95
Saugor Island	3	8·08	8·40	6·58	5·57	4·17	2·78	2·39	2·93	3·67	5·98	8·36	9·12
Chittagong	3	8·89	8·68	7·74	6·52	5·58	3·63	3·19	2·96	3·88	6·70	8·78	9·50
Jessore	3	8·44	8·69	7·47	7·06	5·91	3·36	3·44	4·04	4·75	6·72	8·99	9·49
Dacca	3	8·08	8·07	7·19	6·49	4·74	2·65	2·02	2·20	2·67	6·13	8·74	9·35
Hazareebaugh	3	6·72	8·09	6·39	6·62	6·74	2·53	1·31	2·53	1·81	6·39	8·23	7·92
Berhampore	3	7·82	8·83	7·02	6·48	5·49	2·28	2·05	2·16	2·28	6·24	8·47	8·88
Patna	3	7·78	8·33	6·96	7·51	7·60	3·85	2·17	2·10	2·70	6·95	8·83	8·18
Monghyr	3	8·11	8·76	7·90	8·11	7·41	3·73	3·	2·97	3·23	7·10	9·09	8·49
Darjeeling	3	4·65	3·99	4·73	4·56	2·27	1·25	1·27	1·14	1·53	4·08	4·21	5·16
Goalparah	3	6·68	7·55	6.91	5·21	3·27	1·55	2·28	2·45	2·78	4·75	6·67	6·85
Roorkee	3	7·28	7·06	5·93	7·71	8·68	5·76	3·02	3·31	4·81	9·15	9·11	7·63

The averages in Table XVI are taken from too short a period, and shew too many irregularities to be accepted for more than a rough approximation to the real mean values, *viz.*, such as would be derived from the registers of many years; and I do not think that a detailed discussion of the results, such as I have attempted in the case of pressure, temperature and humidity, would be of much value in the present case. Some general features may, however, be indicated, which seem too well marked to be open to much doubt, and these I shall briefly notice.

In the first place, on comparing the preceding table with Table XIII, although a certain agreement may be traced between the percentage of humidity and the proportion of cloud (the amount of which is, of course, inversely as the figures in the table) this agreement is by no means so close as might be expected. We have seen that the period of greatest dryness of the lower atmosphere falls as a rule in one of the first five months of the year; at the coast stations, Saugor Island and Chittagong, in January; and becomes later and later as we proceed inland; till, at Roorkee, May is the month of least humidity. It was, however, remarked that at this station and Benares a subordinate minimum of humidity occurs in November. Now, in respect of cloud obscuration, December is the month of the minimum at all stations on or near the coast, including those on the deltas of the Ganges and Mahanuddy. At Hazareebaugh, Patna and Monghyr the minimum occurs a month earlier, *viz.*, in November, and at Roorkee, again a month earlier, *viz.*, in October. But besides this absolute minimum, there would appear to be two subordinate minima; *viz.*, one in February, which is pretty well marked at most of the stations in Bengal and Behar, especially Hazareebaugh and Berhampore, while at Goalparah it is the absolute minimum of the year; and another in the hot weather, nearly coinciding with the absolute minimum of humidity. This last is well marked only at stations in the interior, *viz.*, Monghyr, Patna and Roorkee; and it appears to occur in April at Monghyr, between April and May at Patna, and very decidedly in May at Roorkee.

From the above it follows that at stations far inland, where the summer temperature is very great, and land winds prevail almost up to the setting in of the rains, a decided but secondary minimum of cloud obscuration coincides approximately with the minimum of humidity, and is a little earlier than the maximum of temperature, while the absolute minimum occurs at the beginning of the cold weather. At stations in the delta and near the coast, the absolute minimum occurs two months later, *viz.*, in December, when the land winds are most steady, the temperature being then near its minimum; and a secondary minimum in February, when the temperature is rising, and just before the setting in of the southerly winds, which blow all through the hot weather in Lower Bengal, and much mitigate its intensity. Stations in the intermediate region of Behar are intermediate also in point of the periodicity of cloud variation. Thus, the Patna and Monghyr registers shew three minima: the first and absolute minimum occurs in November, *i. e.*, a month earlier than in the delta and a month later that at Roorkee: the second is in February, coinciding

also with the secondary minimum of delta stations, and the third is the hot weather minimum, which occurs the earlier, the nearer the station is to the coast. Hence, it appears that the annual variation of serenity depends on the periodical and geographical variations of temperature and wind direction conjointly, and generally the period of minimum cloudiness either coincides with or precedes by about a month that of minimum humidity at the land surface. A longer series of observations is, however, desirable to verify these conclusions.

In 1871, January, March and October, the two latter especially, were of more than average serenity in Bengal; while from April to September the cloud obscuration was in excess of the average almost everywhere except at Darjeeling. The other months shew variable differences.

Rain-fall.

Complete returns of the rain-fall of the year are given for 144 stations, and incomplete returns for 25 stations, making a total of 169; of these, two are in Madras, two in the North-Western Provinces, one in Arakan, one in the Andamans, and eight in the Central Provinces. The remainder are in Bengal.

The Bengal stations are classified under seven circuits as follow:—

1. South-Western Circuit; comprising Orissa and the Tributary Mehals of Cuttack.

2. Western Circuit; which includes Chutia-Nágpúr, and all the elevated country to the westward of the Delta, as far north as Rajmehal and the borders of the Ganges Valley.

3. Central Circuit.—This comprises the main portion of the Gangetic Delta, as bounded by the Bhagirutti and Hooghly, the Pudma or Ganges and the Lower Megna.

4. North-Western Circuit; consisting of the Gangetic plain west of the Cosi River, with the plains of Behar and the North-Western Provinces.

5. Northern Circuit.—The plain north of the Ganges between the Cosi River and Assam, and the Jamoona River; with the Hills of Sikkim.

6. North-Eastern Circuit; which consists of Assam, and extends southward to the water-shed of the Garrow, Khasi, Jynteah, and Naga Hills.

7. Eastern Circuit; formed by the drainage basin of the Barak and its tributaries, the low-country east of the Jamoona, with Tipperah and Chittagong.

The instruments in use at all the Bengal stations (except the seven following) are Symon's gauges, five inches in diameter, the mouth of which is elevated

about one feet above the ground. At False Point, Cuttack, Saugor Island, Dacca, Darjeeling, Chittagong and Akyab, a float gauge, three feet high, is used, but the rain-fall is measured in a graduated measured glass.

In Table XVII is given the total rain-fall in each month of 1871, and that of the year, together with the elevations of such of the stations as have been determined. In Table XVIII, the number of days on which a measurable quantity of rainfell, the day being reckoned from 18h. to 18h.; and in Table XIX a comparison is instituted between the average annual rain-fall of 53 stations and that of 1871. The averages in this table are taken with some additions and alterations from the more detailed table given in the Report for 1869, pages 70-71. Some additional stations are taken from the paper published in the *Journ. As. Soc. Bengal*, Vol. XXXIX, p. 243; and from Dr. Townshend's Report on the sanitation of the Central Provinces for 1869. Two, *viz.*, Saugor Island and False Point, have been furnished by the office registers, and one, Nazeerah, has been communicated to me by Dr. Foster, the Manager of the Assam Tea Company's Plantations. A few of the former have also been rendered more exact by taking into account the registers of the last two years. These are Midnapore, Purulia, Ranigunge, Rungbee, Goalparah, Shillong, and Mymensingh. The only considerable difference between the present average and that formerly given is in the case of Shillong, the average of which, by an error in the addition, had been made 10 inches too great, and which is further reduced by the present additional data. In the Report for 1869 the average was given as 95·88 ins. It is now reduced to 81·45 inches.

Table XVII.—Rain-fall in inches, in 1871.

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total.
S. Western.	Madras ...	29	0·44	0·02	1·19	.....	0·31	2·82	8·80	1·40	7·49	6·24	25·56	0·43	54·70
	Vizagapatam ...	31	0·10	1·10	2·90	7·60	2·40	3·10	2·30	3·70	3·20	0·30	0·50	0·10	27·30
	Pooree ...	15?	.....	1·64	1·80	6·59	1·79	10·63	13·94	6·14	12·39	1·40	.....	.....	56·32
	False Point ...	18	.....	0·30	3·15	8·10	3·30	10·90	11·64	12·45	7·90	12·34	0·20	.....	70·28
	Cuttack ...	80	.....	0·56	0·43	5·77	4·20	7·44	15·32	5·93	9·67	0·91	.....	0·16	50·39
	Jajipore ...	.....	.....	.....	0·50	4·40	3·40	13·21	30·15	18·20	13·14	5·40	.....	.....	88·40
	Kendraparah ...	.....	.....	0·20	0·90	5·00	5·80	6·30	9·50	8·50	8·10	4·00	.....	.....	48·30
	Jagutsingpore ...	.....	.....	2·50	2·90	4·70	3·95	5·80	10·40	6·20	11·50	2·10	.....	0·20	50·25
	Sambalpur ...	451	.....	0·70	0·35	1·73	0·45	7·32	15·66	8·12	7·43	.....	.....	.....	41·76
	Balasore ...	15?	.....	0·65	0·83	10·60	3·33	7·31	10·89	9·85	14·82	5·13	.....	.....	63·41
	Bhadrack ...	.....	0·03	0·24	0·58	2·33	9·81	6·31	14·14	12·10	6·45	0·99	.....	.....	52·98
	Khurdah ...	.....	.....	0·70	0·35	5·97	4·25	14·29	11·45	11·02	5·89	4·37	.....	.....	58·29
Western.	Midnapore ...	108	.....	0·15	7·34	3·34	9·46	8·44	12·39	14·95	12·34	3·61	.....	.....	72·02
	Gurbetta ...	.....	?	0·14?	3·60	3·89	5·34	7·94	18·29	10·34	10·95	1·76	.....	0·06	62·31?
	Tumlook ...	.....	.....	1·04	11·84	6·68	7·24	10·61	14·69	12·19	7·13	9·32	.....	.....	80·74
	Bancoorah ...	.....	.....	0·48	3·28	3·09	8·94	9·13	12·47	12·99	10·25	0·67	.....	0·18	61·48
	Chyebassa ...	.....	.....	0·68	2·45	1·85	3·66	8·56	11·68	15·55	11·55	2·42	.....	0·16	58·56
	Purulia. ...	.....	.....	0·08	2·30	1·27	4·31	9·30	18·02	17·65	7·80	0·20	.....	0·08	61·01

Western.	Gobindpore	...	.....	?	?	?	?	?	6·98 ?	16·05	17·89	11·11	0·88	.....	.....	.....
	Palamow	..	.....	.....	0·24	0·37	0·14	0·68	13·51	15·86	10·00	12·16	.....	.....	0·51	53·47
	Burdwan	...	97	.....	0·28	2·52	2·57	4·70	9·51	13·37	16·75	11·95	5·48	.....	.....	67·13
	Cutwa	...	.....	.....	0·30	3·47	2·94	4·42	10·54	13·05	15·33	15·72	3·95	.....	.....	69·72
	Culna	...	.....	.....	1·10	2·58	3·81	5·95	15·90	11·97	12·76	8·41	1·68	.....	.....	64·16
	Bood Bood	...	.....	.....	0·42	3·22	2·44	3·70	14·07	11·89	19·59	9·07	0·80	.....	.....	65·20
	Raneegunge	...	326	.....	0·11	2·25	2·13	4·32	8·62	12·77	12·99	8·03	0·90	.....	.....	52·12
	Sooree	...	157	.....	0·09	2·16	2·26	4·34	9·60	10·80	17·37	12·87	1·92	.....	.....	61·41
	Deoghur	...	.....	.....	.....	0·92	2·65	7·91	7·36	13·69	14·90	7·63	0·36	.....	0·09	55·51
	Jamtara	...	.....	?	?	3·00	2·10	5·10	9·83	19·05	16·75	7·30	0·40	.....	.....	.....
	Rajmehal	...	.....	?	0·06?	1·60	1·00	3·90	16·90	14·50	11·10	24·00	1·00	.....	.....	.....
	Pakour	..	.....	?	?	?	?	2·25?	7·05	17·90	7·44	15·55	2·08	.....	.....	.....
	Nya Doomka	...	.....	.....	.....	0·95	2·01	7·92	12·02	15·38	10·04	13·16	0·07	.....	.....	61·55
	Burhee	...	1,169	0·01	0·30	0·35	1·25	1·93	8·62	12·68	13·85	10·62	.....	.....	0·64	50·25
	Hazareebaugh	...	2,010	.....	0·20	0·88	0·35	2·79	4·90	12·43	18·76	14·13	1·26	.....	0·43	56·13
	Pachamba	...	.....	.....	0·09	1·02	2·31	4·96	8·84	13·72	15·48	10·79	0·09	.....	0·13	57·43
	Ranchee	...	.....	.....	.....	2·13	0·36	3·40	14·75	12·84	14·29	13·36	0·26	.....	0·14	61·53
Central.	Saugor Island	...	6	.....	0·25	2·89	6·09	10·12	15·54	12·55	16·28	16·02	21·31	.....	.....	101·05
	Contai	...	43	.....	0·33	1·55	4·50	11·01	11·50	13·93	15·52	12·06	18·06	.....	.....	88·46
	Calcutta	...	18	.....	0·75	5·41	5·72	11·08	25·35	15·93	12·11	9·93	7·03	.....	.....	93·31
	Howrah	...	18	.....	0·27	6·00	6·31	9·83	23·80	17·01	12·54	11·04	6·43	.....	.....	93·23
	Alipore	...	16	.....	0·54	4·99	5·22	10·23	29·54	17·96	11·89	10·02	7·08	.....	.....	97·47

Table XVII.—Rain-fall in inches, in 1871.—(Continued.)

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	August.	Sep.	October.	Nov.	Dec.	Total.
Central.	Barrackpore ...	20	.....	0.40	6·02	1·71	4·74	35·06	14·66	12·89	9·02	.....	.....	.....	84·50
	Dum Dum ...	20	.....	.....	6·38	4·49	9·00	14·44	13·21	5·88	10·18	6 92	.....	.....	70·50
	Baraset	20	.....	0·35	5·44	2·68	5·21	16·30	13·68	12·31	8·10	5·19	.....	.....	69·26
	Satkherah ...	.....	.....	0·33	8·49	4·60	6·79	20·81	10·91	13·45	5·14	5·26	.....	.....	75·78
	Busseerhaut ...	.....	.....	0·13	5·76	4·73	7·95	22·14	11·34	10·60	9·97	2·61	.....	.....	75·23
	Diamond Harbour ..	.....	.....	0·78	6·60	12·19	9·28	14·86	16·00	9·16	10·48	10·74	.. ...	.....	90·09
	Barripore ...	.....	.....	0·56	3·08	8·06	13·22	17·42	16·62	13·88	10·21	10·75	.....	.....	93·80
	Hooghly ...	30	.....	.....	3·13	3·10	9·54	15·68	13·82	19·22	7·70	4·60	.....	.....	76·79
	Serampore ...	.....	?	?	?	3·38	5·63	17·04	13·30	12·98	8·04	4·04	.....	.....	.....
	Jehanabad ...	.....	?	?	?	3·18?	7·17	10·53	15·49	18·42	10·12	3·82	.....	.....	.....
	Jessore ...	20	.....	0·31	5·84	3·26	9·58	23·09	13·47	16·09	5·25	6·11	.....	.....	83·00
	Khoolneah ...	.....	?	0·13?	6·40	2·03	7·37	21·00	9·76	17·64	11·46	3·85	.....	.....	.....
	Jenidah ...	.....	?	?	0 62?	2·61	8·33	31·13	16·49	14·57	9·21	9·72	.....	.....	.....
	Narail ...	.....	?	?	?	4·97?	9·89	17·90	10·81	7·46	6·37	3·63	.....	.....	.....
	Magoorah ..	.....	?	?	?	2·33?	6·30	16·13	5·27	5·62	2·45	4·39	.....	.....	.....
	Bagirhaut ...	.....	?	?	?	2·45?	9·86	21·39	15·96	15·85	12·37	3·94	.....	.....	.....
	Krishnaghur ...	.....	.....	0·16	3·00	2·28	7 92	13·21	11·88	10·37	7·73	4·03	.....	.....	60·58
	Ranaghat ...	.....	.....	0·55	2·13	4·92	6·07	14·35	9·83	10·89	5·92	3·88	.....	.....	58·54

CENTRAL.	Bongong	...	.....	.....	6·75	2·72	9·38	16·99	10·50	16·86	7·68	4·74	.....	.....	75·62
	Meharpore	...	.....	0·50	0·02	3·08	2·22	4·61	11·41	11·91	14·75	12·37	2·42	.....	63·29
	Choadangah	...	.....	.....	.....	3·40	5·75	9·75	15·60	16·30	13·25	17·80	6·50	.....	88·35
	Kooshteah	...	.....	.....	0·06	4·02	2·29	12·37	10·83	14·44	10·37	12·67	4·30	.....	71·35
	Berhampore	...	63	.....	0·02	1·28	3·69	6·22	13·82	14·31	12·14	15·77	1·82	.....	69·07
	Jungipore	...	.....	.....	0·12	0·97	1·62	10·43	11·37	11·69	11·42	14·10	0·43	.....	62·15
	Laulbaugh	...	.....	.....	0·06	1·00	1·47	4·07	13·37	11·49	15·62	14·36	1·23	.....	62·67?
	Jamooakandi	...	.....	?	?	?	1·45?	6·15	10·21	13·52	14·74	11·17	0·54	.....	.....
	Furreedpore	...	.....	.....	0·51	4·22	5·22	12·92	29·45	11·90	18·59	10·17	5·45	.....	93·43
	Goalundo	...	.....	?	?	?	?	?	21·71?	10·77	9·31	8·27	9·37	.....	.....
	Burrisaul	...	.....	.....	0·03	4·08	2·93	10·17	31·72	16·62	10·91	10·46	9·32	.....	96·24
	Dowlat Khan	...	.....	.....	.....	1·93	1·88	9·22	30·10	19·01	21·91	14·27	14·64	.....	112·96
	Perozepore	...	.....	.....	0·80	3·66	3·30	10·55	21·18	13·93	23·07	12·06	5·80	.....	94·35
	Madaripore	...	.....	.....	0·22	4·41	3·72	10·80	18·08	14·22	12·40	6·80	7·64	.....	78·29
N. WESTERN.	Bhaugulpore	...	146	.....	0·27	0·38	1·72	3·09	6·97	12·27	7·03	7·89	.....	.....	39·62
	Mudheypoorah	...	.....	.....	1·35	0·48	3·49	4·22	10·17	11·89	11·77	13·10	0·10	.....	56 57
	Banka	...	.....	.....	.....	1·85	0·60	6·76	8·05	11·81	6·67	13·15	1·21	.....	49·60
	Soopool	...	.....	?	?	?	?	?	?	?	17·35?	13·57	1·37	.....	.....
	Monghyr	...	160	.....	0·16	.....	1·28	1·80	9·80	18·85	12·50	13·15	0·48	.....	58·02
	Jamooie	...	.....	.....	0·35	1·43	1·70	4·65	6·80	16·77	8·12	8·34	.....	.....	48·16
	Begoosari	...	.....	.....	0·40	.....	0·58	5·13	5·83	14·82	7·01	7·62	.....	.....	41·39
	Purneah	...	.....	.....	0·37	0·41	3·40	3·10	14·26	16·56	23·83	18·20	0·20	.....	80·33

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Table XVII.—Rains-fall in inches, in 1871.—(Continued.)

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sep.	October.	Nov.	Dec.	Total.
North-Western.	Kishengunge ...	.....	?	?	?	?	?	6·71?	22·79	15·44	20·31	0·57	.....	.....	.....
	Arraria ...	.....	?	?	?	?	?	5·82?	21·63	18·77	28·82	.....	.....	.....	.....
	Gya ...	336	.....	0·17	0·15	2·59	1·73	5·68	16·02	15·45	6·14	0·04	.....	0·76	48·73
	Shergholty ...	.....	.....	0·16	.....	0·80	1·71	7·14	11·52	16·34	8·50	.....	.....	0·50	46·67
	Nowadah ...	.....	.....	0·22	0·87	0·78	4·13	7·05	11·41	14·32	13·91	.....	.....	0·88	53·57
	Behar ...	.....	.....	0·26	0·38	0·80	5·49	6·57	20·98	11·09	9·73	.....	.....	0·21	55·51
	Patna ...	179	0·05	0·02	0·02	1·20	4·90	11·01	14·17	8·61	18·84	0·50	.....	0·14	59·46
	Arungabad ...	.....	.....	0·30	0·13	1·67	1·40	2·81	9·99	16·81	5·87	.....	.....	1·07	40·05
	Bhubhooah ...	.....	.....	.....	0·43	0·42	2·42	8·90	21·02	14·93	13·25	.....	.....	0·80	62·17
	Barh ...	.....	0·80	.....	0·17	0·32	2·28	2·59	16·68	3·03	11·54	0·23	.....	0·20	37·84
	Dehree ...	362	.....	.....	.....	0·30	1·08	4·62	12·80	19·70	8·92	.....	.....	0·80	48·22
	Sasseram ...	.....	.....	.....	.....	0·15	1·89	5·25	15·71	13·15	16·36	.....	.....	0·55	53·06
	Arrah ...	191	.....	0·01	0·08	0·36	4·22	8·26	12·63	23·50	11·48	0·45	.....	0·50	61·49
	Buxar ...	.....	.....	0·03	0·25	0·65	3·17	12·05	19·05	19·08	17·65	0·30	.....	0·80	73·13
	Chuprah ...	182	.....	.....	.....	1·10	2·70	10·00	13·87	18·71	24·44	0·85	.....	.....	71·67
	Sewan ...	.....	.....	2·72	0·24	0·70	4·36	5·92	14·40	21·64	33·60	.....	.....	0·63	84·21
	Chumparun ...	.....	.....	0·18	.....	.....	6·33	4·87	10·90	12·93	23·32	.....	.....	.....	58·53
	Bettiah	.....	?	?	?	?	?	9·84?	15·17	15·07	21·85	.....	.....	0·10	.....

N. Western.	Mozufferpore ...	.....	.....	0·60	.....	1·30	4·03	11·65	18·00	6·91	35·80	0·33	0·40	.....	79·02
	Durbhangah ...	.....	0·05	0·01	0·37	1·73	2·82	13·57	21·65	17·77	19·57	1·16	.....	.....	78·70
	Seetamaree ...	.....	.....	0·30	3·45	0·33	3·93	7·95	12·40	14·81	20·22	.....	.....	.....	63·39
	Tajpore	.....	0·01	0·14	0·08	1·35	2·52	6·59	13·75	7·50	16·99	.....	.....	.....	.....
	Mudhubani ...	.....	?	?	?	3·59	2·54	5·89	13·51	17·86	16·19	0·32	.....	.....	.....
	Hajeepore ...	.....	?	?	?	?	0·56?	3·68	13·17	8·51	24·46	0·67	.....	0·45	.....
	Dinapore ...	.....	.....	.....	0·02	1·27	2·77	12·01	10·90	13·48	17·32	0·31	.....	0·42	58·50
W.P.N.	Benares	253	.....	0·20	0·55	1·25	0·70	8·53	13·55	14·75	14·50	.....	.....	1·25	55·28
	Roorkee	905	1·02	3·12	.....	.....	1·82	14·42	21·55	13·20	2·98	.....	.....	0·82	58·93
Northern.	Rampore Beauleah ...	110	.....	0·02	0·89	0·24	5·51	16·07	21·99	15·74	10·41	0·64	.....	.....	71·51
	Nattore	.....	.....	.....	0·86	2·44	8·82	13·22	25·01	9·45	20·01	4·90	.....	.....	84·71
	Pubna	.....	.....	0·05	2·44	4·18	11·27	12·54	17·65	11·98	14·69	7·72	.....	.....	82·52
	Coomercolly ...	.....	.....	.....	2·26	1·41?	?	?	?	?	?	?	?	?	.....
	Serajgunge ...	.....	.....	0·35	1·61	2·93	11·09	20·50	15·22	8·38	12·84	4·04	.....	.....	76·96
	Maldah	160	.....	0·02	1·61	1·72	3·86	9·63	14·99	6·12	20·22	4·52	.....	.....	62·69
	Bograh	.....	.....	.....	0·90	5·07	7·56	29·55	14·70	13·41	17·17	4·63	.....	.....	92·99
	Dinagepore ...	.....	.....	0·92	3·08	1·95	6·87	15·98	14·27	14·84	12·28	0·22	.....	0·05	70·46
	Rungpore ...	.....	.....	.....	2·30	1·40	7·90	21·40	27·80	13·40	19·50	0·45	.....	.....	94·15
	Bhowanigunge ...	.....	.....	0·31	2·90	4·94	5·65	19·12	11·78	6·32	14·72	1·39	.....	.....	67·13?
	Julpigoree ...	.....	.....	0·19	4·17	3·68	4·87	16·69	28·54	20·84	11·52	1·36	.....	.....	91·86
	Fallacotta ...	.....	.....	0·03	2·48	2·45	6·32	11·28	20·44	0·98?	?	?	?	?	.....
	Boda	.....	.....	0·03	1·13	2·92	6·63	16·08	14·46	16·17	8·18	.....	.....	.....	65·60

Table XVII.—Rain-fall in inches, in 1871.—(Continued.)

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total.
Northern.	Titalya	.....	0·01	0·07	3·15	3·15	4·23	11·67	20·83	23·20	15·74	0·44	.....	.....	82·49
	Cooch Behar ...	.....	?	?	?	?	?	?	?	?	7·52?	5·72	0·30	.....	.....
	Buxa (Bhootan Dooars)	1,800	.....	0·70	2·60	8·65	16·11	25·32	60·36	32·19	25·20	7·59	2·74	0·16	181·62
	Rungbee (Sikkim) ...	5,000	.....	1·20	4·36	6·70	16·73	27·51	60·54	41.37	32·10	0·40	1·60	.....	192·51
	Darjeeling ...	6,952	.....	0·78	2·72	3·18	8·18	16·83	34·94	24·38	24·57	0·70	0·72	.....	117 00
North-Eastern.	Goalparah ...	386	.....	0·42	3·61	8·30	20·72	17·38	14·26	12·07	10·43	1·17	0·60	.....	88·96
	Dhoobree ...	.....	?	?	1·00?	7·72	11·79	13·01	8·59	8·35	8·13	0·34	.....	.....	58·93?
	Gowhatty ...	.....	.....	0·77	1·43	6·20	9·48	12·88	7·01	10·37	6·92	0·96	.....	.....	56·02
	Tura (Garow Hills) ...	.....	.....	2·06	1·68	7·13	13·58	25·92	17·67	18·43	15·83	5·82	.....	.....	108·12
	Shillong ...	4,825	.....	0·06	0·01	3·81	16·60	13·46	14·29	9·85	8·79	5·63	0·31	.....	72·81
	Jaowai ...	.....	.....	2·15	3·35	3·78	30·33	18·85	18·90	16·53	12·13	15·13	.....	.....	121·15
	Nowgong ...	.....	.....	0·40	1·74	8·38	10·56	9·92	22·27	43·36	19·22	10·16	0·80	.....	126·81
	Tezpore ...	.....	.....	0·69	1·67	12·22	11·26	15·28	10·79	18·89	6·82	3·17	2·70	.....	83·49
	Mungledye ...	... ..	?	0·64	2·23	9·31	11·26	11·53	7·87	16·50	5·48	1·55	0·98	0·36	67·71?
	Nazeerah ...	.....	0·11	2·66	5.51	9·14	10·88	12·27	23·74	24·24	14·63	7·45	3·45	0·44	114·52
	Burpettah ...	.....	.....	0·10	2·80	8·73	14·41	10·34	18·24	14·72	8·90	0·85	2·38	.....	81·47
	Seebsaugor ...	.....	0·25	2·82	6·25	10·35	9·15	8·98	31·06	35·89	6·68	5·52	3·36	0·76	121·07
	Golaghât ...	.....	.....	1·51	4·41	11·21	8·82	10·23	25·23	18·44	12·41	5·54	0·40	0·20	98·40

North Eastern.	Jorehaut	...	.....	?	?	3·87	7·40	9·36	12·74	24·59	20·75	7·15	5·89	2·93	0·69		
	Sapakattie	...	.....	0·18	2·20	6·58	15·59	9·08	12·23	21·16	17·99	9·63	?	?	?		
	Debrooghur	...	.....	0·77	3·24	4·43	5·50	7·19	25·54	22·19	13·41	15·95	5·49	3·84	0·70	108·25	
	Sudyah	...	.....	1·27	3·06	3·99	10·43	9·21	10·07	19·26	18·44	16·42	5·52	3·33	0·74	101·74	
	Samoogoodting	...	.....	.....	1·00	0·50	3·87	7·48	9·45	7·32	13·13	7·01	6·26	0·46	0·27	56·75	
Eastern.	Dacca	...	22	.....	.....	3·70	6·40	17·00	19·30	15·70	6·60	8·40	4·80	.....	.....	81·90	
	Mymensing	...	.....	.....	0·75	1·56	3·98	15·77	30·84	17·53	16·20	16·11	8·35	.....	.....	111·09	
	Jamalpore	...	.....	.....	.....	1·10	4·60	17·15	22·21	14·46	15·48	12·83	1·71	.....	.....	89·54	
	Atteah	..	.. ...	.....	0·80	7·26	1·49	11·05	43·69	11·46	5·35	14·96	9·27	.....	.....	105·33	
	Kishoregunge	...	.....	.....	0·31	2·23	3·77	11·36	39·35	15·08	9·49	18·00	18·12	.....	.....	117·71	
	Sylhet	...	.....	.....	1·12	3·95	16·97	20·23	16·23	24·47	24·15	18·50	18·46	.....	... ..	144·08	
	Cherrapoonjee	...	4,460	?	0·91?	5·03	20·36	33·33	78·08	73·71	54·69	33·64	21·20	0·50	.....	321·45?	
	Cachar	...	73	.....	1·67	5·33	14·10	11·47	8·64	17·50	12·83	13·70	7·24	.....	.....	92·48	
	Hylakandi	...	....	.....	0·62	4·88	13·93	17·44	9·45	16·97	11·84	8·65	8·74	0·20	.....	92·72	
	Koyah	...	.....	.....	0·51	2·69	17·24	20·40	14·09	18·49	13·97	8·80	8·47	0·20	.....	104·86	
	Tipperah	...	.. ...	.....	.....	2·38	4·20	20·11	23·64	17·84	15·72	7·21	7·05	.....	.....	98·15	
	Brahmanbariah	...	.....	... ..	0·15	2·53	5·42	20·73	23·52	18·15	16·74	14·26	9·82	.....	.....	111·32	
	Noakhally	...	.....	.....	0·15	3·83	2·25	13·33	36·42	21·17	17·38	20·82	17·48	.....	.....	132·83	
	Chittagong	...	108	.....	.....	4·19	1·92	8·89	38·46	17·45	15·48	10·34	8·44	.....	.....	105·17	
	Cox's Bazar	...	... ..	.....	.....	5·64	3·13	18·40	47·13	38·52	31·12	14·09	5·57	.....	.....	163·60	
	Rangamatee Hill (Chittagong Hill Tracts)	...	.....	.....	0·04	3·40	3·62	16·48	23·16	18·13	16·89	10·13	8·33	... ..	.....	100·18	

Table XVII.—Rain-fall in inches, in 1871.—(Concluded.)

Circuit.	Stations.	Elevation in feet.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.	Total.
Central India.	Akyab ...	10	.....	.....	0·80	0·15	21·07	70·64	50 20	29·70	25·33	12·84	.....	0·97	211·70
	Port Blair ...	218	.....	2·20	0·70	1·63	17·54	11·48	20·13	12·02	16·20	9·47	8·47	0·23	100·07
	Hoshungabad ...	.....	0·15	.....	.....	.....	0·90	14·30	15·40	12·80	22·40	.....	0·20	0·05	66·20
	Saugor ...	.....	1·02	0·35	.....	0·10	1·15	14·62	24·12	15·33	11·39	.....	0·30	.....	68·38
	Jabalpúr	.....	0·37	0·61	.....	0·02	0·71	12·41	19·71	11·20	13·19	.....	.....	1·00	59·22
	Pachmahri ...	.....	0·54	0·21	.....	.....	1·00	14·70	38·38	13·08	27·68	.....	.....	0·77	96·36
	Seoni ...	.....	.....	0·40	.....	.....	1·40	15·60	11·82	4·60	7·66	.....	1·60	1·20	44·28
	Nagpúr ...	.....	0·17	0·20	.....	.....	1·33	12·80	17·15	2·04	12·86	.....	.....	0·12	46·67
	Raipúr ...	.....	.....	.....	0·21	0·10	1·28	11·48	13·72	2·62	8·69	.....	.....	0·02	38·12
	Chanda ...	.....	0·64	0·69	0·48	0·10	0·56	8·13	13·10	1·96	12·85	.....	.....	0·02	38·53

Table XVIII.—Days on which Rain was measured in 1871.

Circuit.	Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August	Sept.	October.	Nov.	Dec.	Total.
South-Western.	Madras	3	1	2	.....	1	10	11	8	8	13	20	7	84
	Pooree	.....	2	3	8	5	9	16	20	16	4	.....	.....	83
	False Point	.....	1	3	7	6	10	13	14	13	6	. 1	.....	74
	Cuttack	.....	3	3	7	12	13	24	18	21	4	.....	1	106
	Jajipore	.....	.....	1	6	7	13	17	14	18	3	.....	.....	79
	Kendraparah	.....	1	3	7	8	10	11	13	13	3	.....	.....	69
	Jagutsingpore	.....	2	2	4	6	11	12	11	8	1	.....	1	58
	Sambalpúr	.....	2	1	3	2	10	24	8	9	.....	.....	.....	59
	Balasore	.....	3	1	13	14	13	17	19	14	5	.....	.....	99
	Bhadrack	1	1	2	8	12	13	21	15	13	3	.....	.....	89
	Khurdah	.....	3	3	4	10	19	23	19	18	5	.....	.....	104
Western.	Midnapore	.....	2	3	7	13	18	17	17	17	5	.....	.....	99
	Gurbetta	?	2?	3	10	11	16	15	20	16	6	.....	1	100?
	Tumlook	.....	2	3	8	12	15	14	19	10	5	.....	.....	88
	Bancoorah	.....	2	3	5	8	18	21	22	15	3	.....	1	98
	Chyebassa	.....	3	3	9	15	20	27	22	19	1	.....	1	120
	Purulia	.....	1	4	10	14	22	26	22	17	3	.....	2	121
	Gobindpore	?	?	?	?	?	16?	26	26	15	3	.....	.....	.....

Table XVIII.—Days on which Rain was measured in 1871.—(Continued.)

Circuit.	Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Western.	Palamow	.....	1	2	1	5	18	24	17	21	.....	.....	2	91
	Burdwan	.....	2	3	7	13	22	22	25	19	5	.....	.....	118
	Cutwa...	.....	1	4	9	8	18	24	24	15	7	.....	.....	110
	Culna...	.....	2	4	10	8	21	26	24	20	5	.....	.....	120
	Bood-Bood	.....	2	3	6	10	21	21	21	15	3	.....	.....	102
	Raneegunge	.....	2	4	6	14	21	26	23	18	4	.....	.....	118
	Sooree...	.....	1	2	6	13	23	22	25	21	4	.....	.....	117
	Deoghur	.....	.....	2	3	11	13	20	22	16	1	.....	1	89
	Jamtara	?	?	3	4	10	15	18	20	14	2	.....	.....	.....
	Rajmehal	?	1?	2	1	9	10	13	10	14	2	.....	.....	.....
	Pakour	?	?	?	?	2?	13	18	14	20	6	.....	.....	.....
	Nya Doomka	.....	.....	2	4	12	17	22	23	20	1	.....	.....	101
	Burhee	1	1	1	5	6	20	22	21	22	.....	.....	2	101
	Hazareebaugh ...	.....	3	3	4	11	15	27	19	23	2	.....	2	109
	Pachamba	.....	2	3	4	12	18	26	26	21	1	.....	1	114
	Ranchee	.....	.....	3	1	7	22	22	20	18	1	.....	1	95

CENTRAL.	Saugor Island ...	.....	1	2	11	24	20	25	19	23	6	.....	.....	131
	Contai	.....	1	3	10	14	15	20	23	18	7	.....	.....	111
	Calcutta	.....	3	4	9	16	27	27	22	20	6	.....	.....	134
	Howrah	.....	3	3	9	14	26	27	21	18	7	.....	.....	128
	Alipore	.....	3	3	8	14	27	27	21	21	6	.....	.....	130
	Barrackpore ...	.....	1	4	7	11	21	19	19	18	.....	.....	.....	100
	Dum-Dum	.....	.....	3	8	14	23	26	22	22	8	.....	.....	131
	Baraset	.....	1	4	5	12	22	24	21	15	7	.....	.....	111
	Satkherah	.....	1	4	7	11	24	27	23	16	6	.....	.....	119
	Busseerhaut	.....	1	4	7	14	27	23	17	20	4	.....	.....	117
	Diamond Harbour ...	.....	2	3	11	18	23	23	21	17	5	.....	.....	123
	Barripore	.....	3	3	6	16	25	28	28	23	4	.....	.....	136
	Hooghly	.....	.....	3	5	8	18	15	21	12	4	.....	.....	86
	Serampore	?	?	?	5	14	24	28	23	19	5	.....	.....	.....
	Jehanabad	?	?	?	4?	13	19	24	28	21	7	.....	.....	.....
	Jessore	.....	3	6	7	10	29	21	20	17	9	.....	.....	122
	Khoolneah	?	1?	3	6	15	28	22	24	17	6	.....	.....	.....
	Jenidah	?	?	1?	6	13	29	19	17	11	8	.....	.....	.....
	Nurail	?	?	?	11?	12	26	21	22	15	6	.....	.....	.....
	Magoorah	?	?	?	5?	12	27	19	22	15	10	.....	.....	.....
	Bagirhaut	?	?	?	5?	11	24	24	21	17	4	.....	.....	.....
	Krishnagur	.....	2	5	11	10	23	25	24	16	7	.....	.....	123

Table XVIII.—Days on which Rain was measured in 1871.—(Continued.)

Circuit.	Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Central.	Ranaghat	.....	2	3	5	9	18	20	20	16	5	.....	.....	98
	Bongong	.....	.....	3	6	13	26	22	21	15	5	.....	.....	111
	Meharpore	1	1	4	7	12	22	25	24	14	3	.....	.....	113
	Choadangah	.....	.....	3	6	10	21	18	15	13	7	.....	.....	93
	Kooshteah	.....	2	4	6	16	24	22	22	19	10	.....	.....	125
	Berhampore	.....	1	3	5	13	24	21	24	19	3	.....	.....	113
	Jungipore	.....	1	3	7	15	23	24	21	18	2	.....	.....	114
	Laulbaugh	?	1	3	8	14	23	22	29	21	4	.....	.....	125?
	Jamooakandi	?	?	?	4?	14	17	19	19	18	1	.....	.....	.....
	Furreedpore	.....	3	6	11	13	23	20	19	15	8	.....	.....	118
	Goalundo	?	?	?	?	?	20?	17	19	17	7	.....	.....	.....
	Burrisaul	.....	1	3	9	19	29	25	23	18	11	.....	.....	138
	Dowlatkhan	.....	.....	5	8	16	25	18	18	15	8	.....	.....	113
	Perozepore	.....	1	3	7	17	29	31	31	23	9	.....	.....	151
	Madaripore	.....	2	4	12	16	23	21	16	15	9	.....	.....	118
N.-Western.	Bhaugulpore	.....	2	2	3	11	13	17	19	17	.....	.....	.....	84
	Mudheypoorah	.....	2	1	5	9	7	14	13	12	1	.....	.....	64
	Banka	.....	.....	1	1	11	13	18	16	13	1	.....	.....	74
	Soopool	?	?	?	?	?	?	?	15?	22	5	.....	.....	

N.-Western:	Monghyr	.....	2	.....	3	5	9	19	15	18	1	.....	.....	72
	Jamooie	.....	1	1	3	9	10	23	7	9	.....	.....	.....	63
	Begoosari	.....	2	.....	3	9	11	22	14	15	.....	.....	.....	76
	Purneah	.....	2	1	4	8	15	24	17	18	1	.....	.....	90
	Kishengunge	?	?	?	?	?	16?	25	21	17	3	.....	.....	
	Arraria	?	?	?	?	?	5?	25	14	15	.....	.....	.....	
	Gya	.....	1	1	4	6	11	21	15	19	1	.....	2	81
	Shergholty	.....	1	.....	5	6	12	24	21	16	.....	.....	1	86
	Nowadah	.....	1	2	1	6	9	11	9	13	.....	.....	1	53
	Behar	.....	1	2	4	11	11	25	15	19	.....	.....	1	89
	Patna	1	1	1	3	9	11	20	12	18	2	.....	1	79
	Arungabad	.....	1	2	5	8	11	14	13	10	.....	.....	2	66
	Bhubhooah	.....	.....	3	2	7	12	19	18	18	.....	.....	1	80
	Barh	1	.....	3	2	8	9	21	12	18	1	.....	1	76
	Sasseram	.....	.....	.....	1	6	14	19	16	18	.....	.....	1	75
	Arrah	.....	1	1	2	14	14	20	16	18	2	.....	1	89
	Buxar	.....	2	3	3	11	14	17	18	20	1	.....	2	91
	Chuprah	.....	.....	.....	1	8	11	16	12	11	1	.....	.....	60
	Sewan	.....	2	1	3	11	11	15	19	21	.....	.....	1	84
	Chumparun	.....	1	.....	.....	6	7	11	10	14	.....	.....	.....	49
	Bettiah	?	?	?	?	?	6?	15	15	15	.....	.....	1	.....
	Mozufferpore	.....	2	.....	3	6	12	17	17	16	1	1	.....	75

Table XVIII.—Days on which Rain was measured in 1871.—(Continued.)

Circuit.	Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	October.	Nov.	Dec.	Total.
N.-Western.	Durbhangah	1	1	3	5	9	13	19	18	16	1	.....	.....	86
	Seetamaree	.....	2	3	1	5	10	9	17	14	.....	.....	.....	61
	Tajpore	1	1	1?	2	3	7	11	10	13	.....	.....	.....	.....
	Mudhubani	?	?	?	5	10	9	21	15	17	1	.....	.....	.....
	Hajeepore	?	?	?	?	2?	11	20	13	16	2	.....	1	.....
	Dinapore	.....	.....	1	5	10	12	20	15	18	1	.....	1	83
	Benares	.....	1	2	2	2	12	23	16	16	.....	.....	2	76
	Roorkee	3	5	.....	.....	4	14	16	13	6	.....	.....	3	64
Northern.	Rampore Beauleah ...	.....	1	2	3	12	14	20	21	15	3	.....	.....	91
	Nattore	.....	.....	1	4	11	18	20	18	16	5	.....	.....	93
	Pubna	.....	1	4	11	15	24	18	26	18	6	.....	.....	123
	Coomercolly	.....	.....	3	2?	?	?	?	?	?	?	?	?	.....
	Serajgunge	.....	1	5	7	12	20	22	14	17	6	.....	.....	104
	Maldah	.....	1	3	3	12	24	23	18	19	7	.....	.....	110
	Bograh	.....	.....	2	9	6	16	19	17	18	6	.....	.....	93
	Dinagepore	.....	3	4	5	11	22	21	23	20	3	.....	1	113
	Rungpore	.....	.....	1	2	10	9	17	13	22	1	.....	.....	75
	Bhowanigunge	?	1	3	6	7	13	15	8	11	2	.....	.....	66?

NORTHERN.	Julpigoree	...	...	.....	2	6	8	12	17	20	20	15	3	.....	.....	103
	Fallacotta	...	...	.....	1	3	7	13	15	14	2?	?	?	?	?	?
	Boda	...	...	.....	2	3	5	12	17	23	21	16	.....	.....	.....	99
	Titalya	...	...	1	2	3	6	13	22	26	21	16	3	.....	.....	113
	Cooch Behar	...	...	?	?	?	?	?	?	?	?	7?	5	1	.....	.....
	Buxa (Bhootan Dooars)	...	...	.....	1	3	12	16	18	27	20	22	4	5	2	130
	Rungbee (Sikkim)	...	...	.....	2	2	7	7	14	20	17	14	1	4	.....	88
	Darjeeling	...	...	.....	4	9	12	18	28	29	24	25	4	5	.....	158
EASTERN.	Goalparah	...	...	.....	1	4	17	18	19	20	24	19	5	4	.....	131
	Dhoobree	...	..	.....	?	1?	7	12	20	14	12	9	2	.....	.....	77?
	Gowhatty	...	...	.....	2	4	14	12	15	8	17	10	3	.....	.....	85
	Tura (Garrow Hills)	...	...	.....	4	2	9	21	28	21	20	19	8	.....	.....	132
	Shillong	...	...	.....	4	1	19	24	22	24	19	17	12	3	.....	145
	Jaowai	...	...	.....	6	7	11	21	26	29	23	16	13	.....	.....	152
	Nowgong	...	...	.....	3	6	13	9	16	19	23	13	5	3	.....	110
	Tezpore	...	...	.....	4	12	22	13	20	21	24	17	9	8	.....	150
	Mungledye	...	...	?	3	5	20	14	24	17	22	14	5	5	2	131?
	Nazeerah	...	...	4	12	23	22	21	23	28	29	17	18	9	5	211
	Burpettah	...	...	.....	1	4	18	13	17	17	20	11	2	4	.....	107
	Seebsaugar	...	...	2	8	18	23	12	16	24	23	13	9	6	2	156
	Gohaghât	...	...	.....	9	24	25	13	17	24	23	20	16	5	1	177
	Jorehaut	...	...	?	?	22	19	14	17	22	20	18	13	8	2	.....

Table XVIII.—Days on which Rain was measured in 1871.—(Concluded.)

Circuit.	Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	October.	Nov.	Dec.	Total.
N.-E.	Sapakattie	?	10	21	19	12	18	22	22	?	?	?	?	.....
	Debrooghur	2	8	14	9	9	14	19	18	16	10	4	4	127
	Sudyah	5	8	16	17	10	11	21	20	14	7	8	4	141
	Samoogoodting	.....	2	1	8	10	9	11	9	7	7	1	1	66
Eastern.	Dacca	.....	.....	4	12	13	20	24	13	12	7	.....	.....	105
	Mymensing	.....	3	5	15	17	24	25	21	22	7	.....	.....	139
	Jamalpúr	.....	.....	2	9	10	19	15	13	15	4	.....	.....	87
	Atteah	.....	1	6	9	15	24	16	11	10	8	.....	.....	100
	Kishoregunge	.....	1	6	9	14	25	16	14	21	9	.....	.....	115
	Sylhet	.....	5	10	18	16	28	29	25	23	9	.....	.....	163
	Cheerapoonjee	?	6?	10	23	17	28	30	31	28	11	1	.....	.....
	Cáchar	.....	4	12	16	17	20	31	25	22	10	1	.....	158
	Hylakandi	.....	2	9	17	16	24	22	19	18	11	2	.....	140
	Koyah	.....	2	11	19	15	20	24	23	15	10	.....	.....	139
	Tipperah	.....	.....	7	7	19	21	19	18	11	6	.....	.....	108
	Bramanbariah	.....	2	5	6	18	21	25	20	14	10	.....	.....	121
	Noakhally	.....	1	4	8	15	26	25	24	23	12	.....	.....	138
	Chittagong	.....	.....	4	5	13	25	19	22	17	11	.....	.....	116

EASTERN.	Cox's Bazar	.....	.....	3	3	19	25	24	26	17	8	.....	.....		125
	Rangamatee Hill (Chittagong Hill Tracts) ...	.....	1	3	6	15	22	26	23	13	10	.....	.....		119
S.-E.	Akyab	.....	.....	2	1	17	30	31	27	17	13	... ..	3		141
	Port Blair	.....	3	1	3	27	24	28	26	22	22	12	3		171

Table XIX.—Comparison of the total Rain-fall of 1871 with the average of many years.

Stations.	Average.		1871 ins.	Excess in 1871 ins.	Defect in 1871. ins.
	Years.	Ins.			
Pooree	12 to 13	54·83	56·32	1·49	
False Point	5	68·21	70·28	2·07	
Cuttack	9 to 12	53·27	50·39		2·88
Sambulpúr	5 to 8	47·65	41·76		5·89
Balasore	8 to 10	68·45	63·41		5·04
Midnapore	6 to 8	65·84	72·02	6·18	
Bancoorah	12 to 13	53·31	61·48	8·17	
Purulia	7 to 10	44·05	61·01	16·96	
Burdwan	10 to 13	61·41	67·13	5·72	
Raneegunge	5	55·76	52·12		3·64
Sooree	7	48·98	61·41	12·43	
Hazareebaugh	4 to 5	50·52	56·13	5·5I	
Ranchee	12 to 14	41·02	61·53	20·51	
Calcutta	32	66·04	93·31	27·27	
Saugor Island	4 to 5	87·61	101·05	13·44	
Jessore	8 to 12	64·91	83·00	18·09	
Krishnughur	6 to 10	60·04	60·58	0·54	
Berhampore	12 to 14	53·13	69·07	15·94	
Bhagulpúr	13 to 14	50·93	39·62		11·31
Monghyr	14	39·19	58·02	18·83	
Gya	6 to 8	44·33	48·73	4·40	
Patna	7 to 8	35·66	59·46	23·80	
Arrah	11 to 14	49·16	61·49	12·33	
Chuprah	11 to 14	34·85	71·67	36·82	
Chumparun	6 to 8	40·02	58·53	18·51	
Mozufferpore	9 to 11	37·13	79·02	41·89	
Rampore Beauleah ...	8 to 10	63·32	71·51	8·19	
Maldah	12 to 14	51·81	62·69	10·88	
Bograh	7 to 9	91·07	92·99	1·92	
Dinagepore	8 to 10	85·84	70·46		15·38
Rungpore	8 to 10	85·22	94·15	8·93	

Table XIX.—Comparison of the total Rain-fall of 1871 with the average of many years.—(Concluded.)

Stations.	Average.		1871. Ins.	Excess, in 1871. ins.	Defect in 1871. ins.
	Years.	Ins.			
Darjeeling	7 to 10	125·59	117·00	.....	8·59
Rungbee	6	175·23	192·51	17·28	.....
Goalparah	7 to 8	97·78	88·96	.....	8·82
Gowhatty	8 to 10	70·76	56·02	.....	14·74
Shillong	5 to 6	81·45	72·81	.....	8·64
Nowgong	8 to 10	79·50	126·81	47·31	.....
Tezpore	8 to 10	76·08	83·4	7·41	.....
Nazeerah	9 to 10	83·56	114·52	30·96	.....
Seebsaugor	10 to 12	90·45	121·07	30·62	.....
Cherrapoonjee	4 to 11	559·02	321·45	.....	237·57
Dacca	9 to 10	75·23	81·90	6·67	.....
Mymensing	7 to 8	105·10	111·09	5·99	.....
Sylhet	10 to 14	149·76	144·08	.....	5·68
Cachar	9 to 11	123·39	92·48	.....	30·91
Tipperah	9 to 10	95·86	98·15	2·29	.....
Noakhally	11 to 13	98·33	132·83	34·50	.....
Chittagong	10 to 12	108·47	105·17	.....	3·30
Akyab	9 to 11	219·45	211·70	.....	7·75
Nagpúr	10	41·15	46·67	5·52	.....
Hoshungabad	14	48·13	66·20	18·07	.....
Jabalpúr	19	50·85	59·22	8·37	.....
Saugor	10	53·60	68·38	14·78	.....

The rain-fall of 1871 was unusually heavy in Northern India. In Calcutta it was the greatest on record, exceeding even that of 1868; and in many parts of the country the floods on the low-lands were of such extent and depth as to breach the railways, and cause serious interruptions to the traffic. To this general abundance there were, however, some remarkable and apparently capricious exceptions. In the tea districts of Eastern Bengal, in Lower Assam, and on the intervening plateau of the Khasi Hills, the rain-fall of the year was considerably below the average; and the Station of Cherrapoonjee, long renowned as the seat of the heaviest recorded rain-fall in the world, received less than three-fifths of its usual quantity. On the other hand, in Upper Assam

as in Northern India, the excess was very great, amounting to one-third more than the average fall. In Orissa, again, as far West as Sambalpúr, the rain-fall was in general somewhat below the average, while it was greatly in excess in the western part of the Gangetic Delta, in Chota-Nagpúr, and the Central Provinces, in Northern Behar and Tirhoot: it was exceedingly heavy at Chuprah, for instance, where it was more than double the average annual quantity, and at Sewan.

So much may be stated with tolerable confidence, since the registers of many neighbouring stations bear concurrent testimony to the facts, and show a gradual variation from one tract to another. Other cases, however, are more open to doubt, *viz.*, those in which the registers of neighbouring stations exhibit great and abrupt differences, such as Jajipore in Orissa, Choadangah in Krishnaghur, Madaripore in Backergunge, the Civil Station of Pubna, and Dum-Dum and Baraset in the immediate neighbourhood of Calcutta. Although all practicable precautions have been taken to prevent error, by adopting the same kind of gauge, and by laying down distinct and detailed rules for placing the gauges and registering the rain-fall, it is certain that the rules and directions are sometimes disregarded, and it is impossible to assert in any particular case that the register has not been vitiated by carelessness, or by idle tricks being played with the gauge, such tricks as are recorded in many a mofussil anecdote. It must be borne in mind that many, perhaps the majority of those who take the readings, perform the duty mechanically, and though incapable of consciously sending in false returns, would measure in good faith, and without suspicion, whatever water there may be in the gauge; and it may not always be practicable to find a suitable place for the gauge where it is safe from the curiosity and experiments of irreverent idlers. While, therefore, on the whole, the registers testify by their general agreement to their being at least approximately accurate, and while I should certainly not be justified in asserting that these anomalous readings are really erroneous, I should hesitate to accept as genuine some of the more striking local anomalies above adverted to, in the absence of confirmatory evidence.

Omitting these from consideration, the distribution of rain-fall in 1871 was as follows:—The fall exceeded 100 inches on the outer margin of the Soonderbuns, and at Noakhally amounted to 130 inches. Also in Sylhet and Mymensing, over a wedge-shaped tract, extending from the Jaboona at Atteah to the confines of Sylhet and Cachar, and to the water-shed of the Garrow Hills; and in the upper part of the Assam Valley as far down as Nowgong. It was above 90 inches immediately around Calcutta, on both sides of the Hooghly estuary, and over the eastern part of the Delta, including Perozepore and Burrisaul, Comillah and Furreedpore, Rungpore and Julpigoree. Dacca, lying within this area, offered an exception; and a tract in Lower Assam, from Goalparah to Tezpore, had also less than 90 inches. The lowest quantity recorded in this latter tract was at Gowhatty, which received no more than 56 inches.

In the district of the 24-Pergunnahs, east of Calcutta, and in the southern part of Jessore, the fall was between 70 and 80 inches; but in the northern part

of this district, including the stations of Jessore and Kooshteah, it exceeded 80 inches. Nattore, Titalya and Purneah had between 80 and 90 inches. The rain-fall exceeded 70 inches over the greater part of the Midnapore and Hooghly Districts, and in the eastern part of Krishnaghur. A strip of country between the Bhagirutty and Jellinghy, from Ranaghât to Berhampore, received rather less than 60 inches, but elsewhere the fall exceeded that amount, up to the Rajmehal Hills and the borders of the Sonthal country. On the plateau to the westward, from Raneegunge to the confines of the Sôn Valley, and from the Damoodah to the Ganges, the average fall was between 50 and 60 inches, but at Bhaugulpore less than 40 were recorded. At Ranchee, Purulia and Bancoorah more than 60 inches fell, but almost everywhere to the south of this line the quantity was less than 60. In the Sôn Valley, east of that river, a region including Gya, Sherghotty, Arungabad, and Jamooie had a fall of less than 50 inches; but to the west of the Sôn, and everywhere to the northward, from 50 to 80 inches were measured. Thus, Patna had 59, Arrah 61, Buxar, Chuprah and Mozufferpore, between 70 and 80, and Sewan not less than 84 inches. The region of this unusually heavy rain-fall, therefore, coincided approximately with that of the low pressure described at page 26, or possibly lay a little beyond it in the direction of the rain bearing wind, as was the case in the Lower Bengal and Orissa in the monsoon of 1868.*

January was a dry month throughout Bengal, and February scarcely less so. In March there were some heavy showers, heavier than usual for the time of the year, especially in the Midnapore district; and generally in Lower Bengal, the rain-fall in the month was about twice or three times as great as the average quantity. In April the rain was frequent and copious, and extended over the whole of Bengal and Behar. The rains may be said to have set in, in this month; not, as in most years, with a single well marked burst of rain-fall, but by the gradual increase in the frequency and quantity of the showers. May was in all respects like an average June, except in the districts north of the Delta and in Assam; where, with local exceptions, the fall was not heavier than usual. From this time up to September the rain poured on steadily in somewhat greater quantity than usual, and in the latter month, just before the close of the rains, an excessively heavy fall took place in Tirhoot and the adjoining districts of Chuprah and Chumparun. The last three months of the year were, on the whole, drier than usual.

Winds.

The following table gives the number of observations of each wind recorded in each month at 22 stations, together with the mean daily movement of the air in miles at 17 stations. At most of these, 16 of the 32 points are distinguished, and calms have been recorded at all those under the meteorological department, since the attention of the observers was drawn to their apparent omis-

* See Report for 1869, Pl. I-II., p. 20.

sion in July last. Formerly they were recorded also at the Surveyor-General's Office in Calcutta, but this has not been the case for some years past. I have, in this and last year's report, made an alteration in the Calcutta register as received to my office, and as published in the "Journal of the Asiatic Society." Having observed that in these wind tables the winds are classified under the unusual number of 24 points, I made enquiry as to the observatory practice, and learned that, with the exception of the eight principal points, the meaning attached to the compass notation in the Surveyor-General's Office registers is different from that which it ordinarily bears. Thus, N by E is used for N 15° E, NNE for N 30° E, and so on. I have, therefore, substituted a notation less likely to mislead.

I give for the first time the readings of the anemometers at most of the stations. The instruments used are all on Dr. Robinson's principle, either with a vertical train of five wheels as constructed by Messrs. Adie, or with two concentric wheels constructed by Mr. Casella. The instruments are in most cases fixed on the top of a building or of a post set up for the purpose. The elevations of the cup and bulb motors above the ground are as follow :—

Cuttack	...	31 ft. on building.
Saugor Island	...	39 „ „ turret of Superintendent's house.
Calcutta	...	71 „ „ the highest point of the Surveyor-General's Office.
Chittagong	...	25 ft. on the E. T. Office building.
Dacca ...	...	43 „ ditto.
Cachar ...	...	21 „ on a post.
Shillong...	...	15 „ ditto.
Goalparah	...	19 „ ditto.
Berhampore	...	on roof of Civil Surgeon's house.
Hazareebaugh	...	6 „ on a small post.
Monghyr	...	9 „ ditto.
Patna ...	...	34 „ on roof of Kacheri.

At Chittagong and Goalparah, the observatories are situated on hills, so that the exposure of the anemometers is really somewhat better than would be judged from the above figures, and at Hazareebaugh this instrument is fixed at the highest point in the station, in a site remarkably free from trees and other impediments.

In Table XXI. is shown the resultant winds of each station in each month of 1871, computed by Lambert's formula from the number of the observed winds during the month, and the excess percentage in the direction of the resultant. In Table XXII. is given the average corresponding data for several stations derived from several years' observations ; and in Table XXIII. the average daily movement of the wind in each month, also obtained from two or three years past registers.

Table XX.—Summary of observed Wind Direction in 1871.

PORT BLAIR.

Two Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	18	9	12	4						7	2	3
N. N. E. ...		5									1	
N. E. ...	38	17	32	33	6				3	42	52	21
E. N. E. ...												
East ...	1	16	12	10					1	9	1	
E. S. E. ...											1	
S. E. ...		1	2	11	8		1		7	3	2	11
S. S. E. ...												
South ...				1	4		6		1			7
S. S. W. ...												1
S. W. ...					43	60	55	62	47		1	18
W. S. W. ...												
West ...	1	1							1			
W. N. W. ...												
N. W. ..	4	3	4	1	1					1		1
N. N. W. ...		4										
Calm ...												

MADRAS.

Two Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	21	3	1		1					4	6	1
N. N. E. ...	8	5							1	3	14	12
N. E. ...	4	12	8		1		1	2	3	5	15	31
E. N. E. ...	5	9	10	2	7	1	2	3	2	2	6	7
East ...	2	6	7	9	8	1	1	6	1	4	3	2
E. S. E. ...	3	9	19	29	17	12	4	3	4	4	6	2
S. E. ...			4	8	3	3	1		5	5		2
S. S. E. ...		4	8	11	3	4	2	3	14	4	2	
South ...		3	5	1	4	3	5	3	14	1		
S. S. W. ...					4	8	14	8	3	1		
S. W. ...	3				2	13	17	17	2	8	3	2
W. S. W. ...		1			5	10	11	11	1	3		
West ...					3	1	2	4	1	7		
W. N. W. ...						1			2	2	1	
N. W. ...	5	1			3			1	1	4		
N. N. W. ...	11	3			1	3		1	6	5	3	3
Calm ...												

Mean Diurnal Velocity in miles ...	235·1	172·1	197·8	274·4	304·4	303·2	248·3	235·5	226·8	160·8	214·6	248·9

VIZAGAPATAM.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...		1									1	2
N. N. E. ...	2							1		2	1	2
N. E. ...	4					1		1	1	15	4	11
E. N. E. ...	29	5	3	1		1		3	7	26	51	33
East ...	27	8	2	2			2	7	11	20	35	27
E. S. E. ...	12	8	4	2	3		1	1	10	17	6	18
S. E. ...	16	23	7	2	8	4	2	3	19	6	3	8
S. S. E. ...	10	21	10	13	11	5	3	4	8	8	3	6
South ...	3	6	17	23	13	14	12	9	19	12	1	4
S. S. W. ...	6	2	5	7	8	5	5	4	39	12	1	4
S. W. ...	5	5	7	10	10	7	13	9	4	3	2	
W. S. W. ...	4	7	14	26	24	30	18	23	2	3		2
West ...	5	13	36	29	33	44	49	38			4	
W. N. W. ...	1	11	16	5	11	6	12	12				
N. W. ...		1	3		2	2	6	5			2	3
N. N. W. ...		1			1	1	1	4			1	4
Calm ...												

AKYAB.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	31	18	12	8	3	2		1	2	5	21	35
N. N. E. ...	11	3	3	3	3	1		1	2	2	4	10
N. E. ...	9	7	5	7	1					9	8	10
E. N. E. ...	3	5	3	2	4	1		1	1	9	7	11
East ...	9	12	13	3	9	2		7	6	16	4	1
E. S. E. ...		1	13	2	13	7	7	5	10	5	1	1
S. E. ...	1	1	4		10	9	24	11	14	10		
S. S. E. ...			3	4	7	14	17	7	20	7	3	1
South ...			3	3	20	34	47	32	14	9		1
S. S. W. ...	1		5	8	9	20	18	27	16	4	3	1
S. W. ...		2	4	9	10	20	6	19	6	4	5	2
W. S. W. ...	3	1	3	14	6	5	4	4	3	6	1	3
West ...	17	20	19	17	14			7	12	8	20	16
W. N. W. ...	7	3	8	9	6	3	1	1	3	18	16	11
N. W. ...	27	36	22	18	5	2			5	9	19	9
N. N. W. ...	5	3	4	12				1	6	3	8	11
Calm. ..												

FALSE POINT.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	16	9	6	1	2	1	5	1	3	10	23	22
N. N. E. ...					1					2		4
N. E. ...	29	5	7	1	1	5			8	14	40	55
E. N. E. ...	6	2				1					2	1
East ...	4	12	4				1		6	8	3	7
E. S. E. ...		4	1		1				1	1	1	3
S. E. ...	4	8	5		3	1	2	13	6	3	5	8
S. S. E. ...		1	2	1					1	2	3	6
South ...	8	11	7	8	4		4		17	1	5	3
S. S. W. ...		2	6	3	10	6	6		5	1		
S. W. ...	6	21	65	86	67	44	55	37	51	6	1	
W. S. W. ...		1				1		10				
West ...	1	9	13	12	12	40	24	34	10	16	2	
W. N. W. ...		1	2				6	14				
N. W. ...	10	3	3		5	11	14	6	1	3	4	4
N. N. W. ...	1									2		
Variable ...		5	1	8	4		1	1	3	3	5	
Calm ...	39	18	2		14	10	6	8	8	52	26	11

CUTTACK.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	5	1	1			1			3	2	5	13
N. N. E. ...	13	6		3	1	2	2	1	8	14	20	17
N. E. ...	11		3	3	2	4	1		5	5	5	22
E. N. E. ...	5	8	3	3	6	1		2	2		4	9
East ...	9	6	4	2	11	2		2	2		3	12
E. S. E. ...	9	4	6	3	3		2	4	1		6	7
S. E. ...	3	9	8	9	10	1	17	3	5		1	7
S. S. E. ...	4	13	31	12	5	5	7	1	5	4	7	5
South ...	8	4	15	26	15	5	11	1	18	1	4	1
S. S. W. ...	1	13	12	31	30	35	25	32	30	8	5	1
S. W. ...	2	12	8	18	27	33	18	20	9	8	1	4
W. S. W. ...	7	4	8	2	8	12	5	26	6	3	4	3
West ...	4	8	10	7	1	13	15	20	1	4	3	2
W. N. W. ...	9	9	6	1	1	4	9	4	1	2	6	2
N. W. ...	17	9	5		3	1	2	4		3	5	2
N. N. W. ...	17	6	4		1	1	1	3	1	11	7	5
Calm ...							9	1	23	59	34	12
Mean Diurnal Velocity in miles ...	65·7	...	...	118·0	113·9	106·9	79·9	80·1	76·0	42·5	26·1	32·9

SAUGOR ISLAND.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	27	6	2		2			3		13	18	20
N. N. E. ...	17	4	1					1		8	3	12
N. E. ...	20		1	2	2	1	3	2	4	8	9	34
E. N. E. ...	2	1	1		2	1	2	2	10	4	4	6
East ...	1	5	6	4	6	5	6	2	7	2	1	6
E. S. E. ..		2		3	3	2		3	2	3		
S. E. ...		1		7	6	9	10	13	8	3	1	3
S. S. E. ...	1	2	4	5	9	5	11	5	10	2	1	4
South ...	1	16	22	27	27	16	30	14	24	2	4	7
S. S. W. ...	10	26	37	42	32	39	24	24	35	12	16	3
S. W. ...	16	20	29	20	16	29	16	24	15	17	10	5
W. S. W. ...	2	4	5	6	8	7	5	8	2	7	10	1
West ...	5	2	4		4	1	4	7		4	6	1
W. N. W. ...	6	2	3		2	3	4	3		12	6	1
N. W. ...	7	8	1	3	4	2	7	9	2	8	15	11
N. N. W. ...	9	13	8	1	1		2	4	1	19	15	10
Calm ...											1	

Mean Diurnal Velocity in miles ...	155·3	185·9	251·6	372·2	244·7	255·5	232·0	269·3	221·7	150·8	111·4	120·7

CHITTAGONG.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	34	12	12	6	12	4			2	16	15	26
N. N. E. ...	4	6	9	2	4	1	1	2	1	8	20	19
N. E. ...	19	6	2	7	7	2	5	3	5	11	20	4
E. N. E. ...	3	4	3		5	3	5	5	2	3	2	
East ...	8	8	7	6	13	19	22	16	12	2	1	
E. S. E. ...	6	8	5	11	14	34	29	28	14	7	1	
S. E. ...	1	2	4	9	4	24	18	23	14	3		
S. S. E. ..		1	2	6	3	5	5	10	2	1	3	4
South ...		6	14	15	15	13	18	10	16	3		
S. S. W. ...		4	8	3			1	3		1		
S. W. ...	1	9	24	24	20	8	10	11	17	7	1	
W. S. W. ...	9	8	9	12	6	1	2	3	3	1	2	3
West ...	11	11	10	15	12	3	2	3	2	17	9	13
W. N. W. ...	4	4	2		2	1			1	6	7	13
N. W. ...	13	13	6	2	6	1			4	12	12	13
N. N. W. ...	11	10	7	2	1					6	14	26
Calm ...						1	6	7	24	20	13	3

Mean ∓ Diurnal Velocity in miles ...	132·0	134·5	148·9	203·4	174·6	189·0	175·6	166·6	117·6	104·1	97·0	1 197

CALCUTTA.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October	November.	December.
North ...	4	7						2		2	4	4
N. 15° E. ...	7		1					1		5	1	
N. 30 E. ...	6	2	1		1	1				1	3	10
N. E. ...	5	5		1	2	2		3		3	1	2
N. 60 E. ...	4	2		3	2			3		9	3	3
N. 75 E. ...				4	1	1	2	5	2	2		
East ...		6	2	1	2	3	1	1	1	4		
S. 75 E. ...					1	4	3	2	2	3		2
S. 60 E. ...		5	2	2	6	8	4	1	8	5		3
S. E. ...		1	3	5	9	4	10	10	13	3		4
S. 30 E. ...			8	7	7	13	12	11	23	3	1	5
S. 15 E. ...		1	3	6	6	9	20	11	13			
South ...		2	16	28	10	19	21	11	18	5	4	
S. 15 W. ...		3	20	34	5	13	9	13	23	11	3	
S. 30 W. ...	1	10	22	21	36	14	17	18	12	3	10	3
S. W. ...	3	13	19	7	11	14	6	16	4	8	11	10
S. 60 W. ...	8	11	13		6	6	4	5		10	7	8
S. 75 W. ...	12	5	4		3	2	6	5		9	18	
West ...	15	10	4		10		3	4		8	11	7
N. 75 W. ...	10	4	2	1				2	1	4	9	6
N. 60 W. ...	27	1	3		4	4				15	4	30
N. W. ...	15	12	1			1				11	10	23
N. 30 W. ...	6	9			2	1					10	1
N. 15 W. ...	1	1				1					10	3
Calm ...	0	0	0	0	0	0	0	0	0	0	0	0
Mean Diurnal Velocity in miles ...	116·4	114·6	141·3	200·5	126·2	134·0	143·3	128·5	111·6	105·8	72·8	84·2

JESSORE.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	50	15	8	4	2	3				15	22	28
N. N. E. ...	14	6		1	3					3	1	2
N. E. ...	10	4	6		3	10				14	1	
E. N. E. ...	1	1								1		
East ...		2	4	8	14	18			3	6	2	3
E. S. E. ...					1	1	2	6	4	4	2	2
S. E. ...		1	18	23	35	41	53	46	36	13	6	6
S. S. E. ...		1	3	2		1	3	3				
South ...		14	28	55	44	32	24	18	26	8	6	1
S. S. W. ...		3		5	5	2	2	2			1	
S. W. ...	2	6	9	8	5	7	6	6	5	1	3	1
W. S. W. ...			1		1		2	1				
West ...	6	25	26	9	5	2	1	5	7	6	8	2
W. N. W. ...	1	3									1	
N. W. ...	26	27	19	5	6	3		6	1	4	6	13
N. N. W. ...	14	4	2							4	9	7
Calm ...							31	31	38	45	52	59

DACCA.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	25	6		4	3	1				2	9	25
N. N. E. ...				1	2					5	3	3
N. E. ...	4	1	2	7	2	1		1	2	14	10	5
E. N. E. ...	1	1	1	1	2	3			1	2	5	2
East ...	2	3	2	6	7	5	3	2	3	4	2	1
E. S. E. ...		2	3	8	12	8	5	7	10	5	1	
S. E. ...	1	7	9	12	28	24	44	37	29	14	5	4
S. S. E. ...		4	13	25	15	44	26	23	18	12	5	4
South ...	11	8	33	26	15	19	32	28	22	8	7	4
S. S. W. ...	4	15	19	17	7	6	6	6	12	2	3	2
S. W. ...	3	14	18	4	3	3	2	5	9	5	6	6
W. S. W. ...		2	3	1	1						2	
West ...	7	16	6	2	4	1	1	3	3		5	7
W. N. W. ...	17	5	6		3				3	14	8	8
N. W. ...	22	12	2	1	3			2	2	10	18	32
N. N. W. ...	3				2					1	5	2
Calm ...	24	14	6	5	8			8	5	14	18	14
Mean Diurnal Velocity in miles ...	45·2	54·4	110·1	156·0	108·6	192·3	1·999	154·1	129·7	70·9	43·6	56·1

CACHAR.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1	1	1	2	3	11	6	6	6	6	1	3
N. N. E. ...		2	6	4	4	4	8	1	6	1	4	2
N. E. ...	5	3	10	8	3	2	7	9	7	11	6	6
E. N. E. ...	4	13	20	11	10		10	12	9	5	6	10
East ...	12	16	19	18	12	14	12	14	16	19	11	13
E. S. E. ...	5	4	11	17	12	9		6	8	11	14	11
S. E. ...	8	8	11	9	9	17	7	6	3	4	13	6
S. S. E. ...	17	15	6	8	10	3	10	4	7	4	2	2
South ...	23	13	4	14	15	10	6	11	5	4	3	3
S. S. W. ...	9	7	5	4	9	7	4	4	4	5	8	8
S. W. ...	16	13	6		1	9	3	4	3		4	5
W. S. W. ...	6	8	7	4	8	12	5	5	6	10	7	4
West ...	11	4	9	9	13	11	11	7	14	9	8	10
W. N. W. ...	4	1	6	2	15	4	14	13	10	9	4	4
N. W. ...			2	1		1	6	4	2	3	4	
N. N. W. ...	2		1	8		6	2	4	4	1	1	1
Calm ...							13	14	10	22	24	36
Mean Diurnal Velocity in miles ...	63·4	87·6	119·9	97·8	94·7	109·4	137·8	133·2	141·4	103·6	92·3	101·1

HAZAREEBAUGH.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	10	5	2	3	8	4	4	3		6	10	6
N. N. E. ...		2	2	2	1	1	1	3	1	5	3	
N. E. ...	5		1	4	3	5	2	3	8	8		
E. N. E. ...	1	1	1	3	2	4	4	3	7	1	1	1
East ...		1	1	6	5	14	13		15	3		3
E. S. E. ...	1	2	1	6	10	7	14		11	1	1	3
S. E. ...	2	2		9	16	24	18	13	31	2		5
S. S. E. ...	3	2	3	7	14	9	9	6	18	1	2	4
South ...		6	5	5	15	14	13	10	5			1
S. S. W. ...	5	4	7	5	8	4	7	3	4	2	3	7
S. W. ...	1	2	7	17	3	12	5	6	2	5	8	3
W. S. W. ...	4	7	11	7	8	4	10	12	1	4	9	4
West ...	22	26	19	8	7	7	5	17	3	16	19	9
W. N. W. ...	39	21	28	13	1	5	9	5	1	6	22	24
N. W. ...	20	21	31	19	11	1	3	14	1	33	24	34
N. N. W. ...	11	10	5	4	11	5	3	12	4	14	5	13
Calm ...							4	14	8	17	13	7

Mean Diurnal Velocity in Miles ...	110·7	128·0	162·7	161·0	156·7	147·4	137·0	111·5	134·1	82·9	108·5	89·4

BERHAMPOOR.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	3	14	3	3	3	2		2		4	9	13
N. N. E. ...	8	10	1	3	7	4	7	10	35	38	2	
N. E. ...	5	3	4	9	22	18	35	52	40	26	3	8
E. N. E. ...		3	1	5	20	15	5	12	4	4	2	3
East ...		2	1	7	9	14	10	4	3	1	2	1
E. S. E. ...			2	6	5	4	1	1				
S. E. ...			1	2	6	6	7	1	3			
S. S. E. ...			5	4	6	15	14	5	3			2
South ...	1	5	12	34	13	13	21	4	4		2	1
S. S. W. ...		2	4	12	2	7	4		3	1	3	1
S. W. ...	1	8	27	18	5	4	13	9	1	6	5	3
W. S. W. ...	11	8	10	3	1	1	1	2			3	1
West ...	29	27	37	7	12	6		7		5	23	17
W. N. W. ...	32	8	9	1	1	4		1	1	3	4	5
N. W. ...	15	11	5	3	7	3			1	2	8	11
N. N. W. ...	19	11	2	3	5	4			1	7	15	29
Calm ...							6	14	21	27	39	29
Mean Diurnal Velocity in miles ...	36·0	42·4	58·3	102·7	70·5	99·1	94·4	84·6	71·4	37·1	25·4	23·5

GYA.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...			2	15	25	10	8	3	6	9	3	6
N. N. E. ...					1							
N. E. ...			3	7	26	7	7	7	11	6	1	2
E. N. E. ...					1							6
East ...			7	25	39	66	39	12	47	5	5	11
E. S. E. ...												3
S. E. ...			7	5	12	10	6	10	15	8	2	4
S. S. E. ...				1								1
South ...			5	8	8	11	5	15	5	14	16	3
S. S. W. ...												
S. W. ...			21	17	3	6	9	15	6	11	5	2
W. S. W. ...			1									
West ...			51	21	1	9	17	28	3	15	28	16
W. N. W. ...											1	11
N. W. ...			17	21	8	1	1	5	6	19	23	6
N. N. W. ...												2
Calm ...							32	29	21	37	30	51
Mean Diurnal Velocity in miles ...	...	...	65·7	63·5	62·5	75·0	60·0	65·3	63·2	27·2	49·1	45·7

PATNA.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July	August.	September.	October.	November.	December.
North ...			1	1	2		1	1			1	
N. N. E. ...	3	2	5	3	12	4	2	3	4	6	1	1
N. E. ...	3	9	7	15	21	23	5	1	1	2	2	
E. N. E. ...	15	8	12	25	35	43	21	11	15	9	6	5
East ...			1	5		4	1	1	1			
E. S. E. ...	9	6	6	8	21	23	53	28	28	2	2	2
S. E. ...	1	1	2	7	6	6	4	8	3	1	3	
S. S. E. ...	1	1		3	1	3	2	5	1			
South ...	1							3				
S. S. W. ...	2	7	6	2	1	1	4	6		7	3	
S. W. ...	4	8	14	2	1	5	12	2		2	1	
W. S. W. ...	24	14	10	1	1	2	9	6		2	7	6
West ...	2	4	2	2				1			1	
W. N. W. ...	48	36	23	16	6	3	5	4	1	4	14	11
N. W. ...	9	12	29	25	9	2	3			4		
N. N. W. ...	2	4	6	5	8	1	2	3	1	6	2	1
Calm ...								41	65	79	77	98
Mean Diurnal Velocity in miles ...	70·5	41·8	62·0	107·1	102·3	97·9	93·7	74·1	145·4	78·9	79·8	46·3

MONGHYR.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...		3	4	4	5		3		1	5	5	
N. N. E. ...		4	1	1	1		1	1	1	4	1	2
N. E. ...	1	3	6	5	17	10	5	6	5	7	3	7
E. N. E. ...	1	6	13	25	17	8	5	5	10	5	2	5
East ...		5	11	27	37	54	35	21	41	9	4	3
E. S. E. ...	2	1	11	4	18	20	28	13	18	5		2
S. E. ...			3	6	4	7	10	7	13	1	1	1
S. S. E. ...		1		1		2	4			1		
South ...		1			2			2	2		1	
S. S. W. ...	9	2		1	1	2		1	1	1	2	2
S. W. ...	35	13	16	10	2	1	6	16	3	7	18	18
W. S. W. ...	30	18	10	4	2	2	4	15	1	21	8	19
West ...	24	16	14	1	1	5	5	12		19	29	26
W. N. W. ...	1	5	7	4		2				5	10	8
N. W. ..	4	4	7	4	1	2	3	4		8	7	5
N. N. W. ...		1	3	9	1		2	1		2	2	1
Calm ...	17	29	18	13	15	5	13	20	24	24	27	25
Mean Diurnal Velocity in miles ...	79·0	64·9	78·8	98·5	82·9	115·2	77·4	76·5	70·9	35·4	38·6	47·6

DARJEELING.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...										2	2	1
N. N. E. ...	2											
N. E. ...	6				2	2	1	3	6	4	3	1
E. N. E. ...	1		1							1		2
East ...	23	19	32	17	25	24	35	33	35	23	18	18
E. S. E. ...	6	3	3	4	7	6	16	10	6	3	2	7
S. E. ...	10	9	9	6	15	23	19	26	12	4	4	16
S. S. E. ...				1	2	1	1	2	4	1	1	3
South ...	2	5	1		4	5	2	9	3		5	5
S. S. W. ...		1										1
S. W. ...	5	16	7	5	1	15	9	10	7	6	6	7
W. S. W. ...	2	3	2	4	4	5	8	3	1	8	10	14
West ...	36	37	49	49	43	33	26	16	25	45	37	24
W. N. W. ...	5	7	8	8	2	2		1	2	5	5	7
N. W. ...	26	12	12	26	19	3	1	5	16	15	21	9
N. N. W. ...												
Calm ...						1	6	6	3	7	6	9

GOALPARAH.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1	1	1		3	2	2	1	3	1	1	
N. N. E. ...	3	2	6			3	3	2	2	1	4	2
N. E. ...	8	7	11	5	2	3	3	3	1	7	6	6
E. N. E. ...	14	17	17	11	17	6	3	5	6	8	22	15
East ...	36	25	49	54	53	36	53	39	41	56	43	59
E. S. E. ...	12	12	14	19	17	13	14	4	8	14	1	6
S. E. ...	3	7		3	4	4	6	11	2	5	2	3
S. S. E. ...	4	1			5	2	2	5	5	2	2	
South ...	2		2	5	3	9	7	4		3	2	
S. S. W. ...	3	7	2	5	5	11	14	12	14	6	4	6
S. W. ...	4	4	4	5	2	4	6	8	11	4	2	7
W. S. W. ...	5	12	4	7	2	10	9	7	7	4	3	3
West ...	19	12	10	3	4	10	10	16	11	6	3	13
W. N. W. ...	1	1	2	1	3	4	5	1	3	3	1	2
N. W. ...	3	2	2	1	4	2	3	3	3	3	6	2
N. N. W. ...	6	2		1		1	4	3	3	1	1	
Calm ...											17	
Mean Diurnal Velocity in miles ...	73·2	101·9	198·5	162·2	128·4	69·0	69·6	114·1	110·9	123·4	107·5	76·9

SHILLONG.

16th—30th April three observations; other months, four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	3	1	4		5	2	3	6	6	8	13
N. N. E. ...	3	1	1			2	1	4	2	3		4
N. E. ...	4	1				1	1				3	2
E. N. E. ...	2		2				3	4			1	1
East ...	11	2	2	1		10	9	9	4	2	6	7
E. S. E. ...	1	1	2	1		4	1	7	2	3	1	3
S. E. ...	5		1	3		9	7	1		3		
S. S. E. ...	1	1	7	3		4	3	1	3	6	3	3
South ...	9	22	15	19		21	13	13	11	14	9	3
S. S. W. ...	20	18	24	27		18	14	7	16	17	13	5
S. W. ...	21	11	14	14		17	15	5	5	6	6	4
W. S. W. ...	3		6	7		4	5	5	3	5	3	5
West ...	3	12	10	7		8	9	5	3	2	6	4
W. N. W. ...	16	10	12	11		9	14	6	4	7	4	7
N. W. ...	16	20	17	6		7	15	8	16	11	19	17
N. N. W. ...	5	10	10	2		1	1	4	2		6	13
Calm ...							11	42	43	39	32	29
Mean Diurnal Velocity in miles ...	85·7	114·4	160·0	148·8	...	72·5	60·0	60·1	42·8	36·1	57·3	64·7

BENARES.

Four Observations Daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	9	5	6	7	1	2	1		5	6	2
N. E. ...	11	9	7	15	26	11	7	4	9	8	8	8
East ...	8	10	12	28	49	44	31	22	49	11	6	26
S. E. ...		2	1	4	9	15	5	1	19	1	3	1
South ...		1	1	3	3	6	6	7	4	5		4
S. W. ...	4	4	3	2	2	10	11	18	2	4	2	4
West ...	36	22	33	24	6	13	17	45	6	24	37	28
N. W. ...	21	15	28	14	4	3	4	3	2	8	11	8
Calm ...	40	39	27	24	18	14	40	22	28	56	45	42
Mean Diurnal Velocity in miles ...	48·4	50·6	62·8	63·9	76·2	75·5	89·6	68·1	52·0	28·6	30·5	32·5

ROORKEE.

December, 4 observations; other months, 2 observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...		1				1		1				3
N. E. ...	2	3	1			1	1	1				2
East ...		6	2		3	6						
S. E. ...	6	11	8	17	34	39	33	17	15	22	7	6
South ..				1		1	1	1				2
S W. ...	1	1	3	1	1	4	2	2	5	1	2	1
West ...												1
N. W. ...	34	21	32	25	16	6	10	10	12	5	18	18
Calm ...	19	13	16	16	8	2	15	30	28	34	33	91
Mean Diurnal Velocity in miles ...	72·4	78·9	67·8	84·8	98·4	85·7	65·2	49·9	43·5	11·4	19·4	21·5

Table XXI.—Wind Re

	January.		February.		March.		April.		May.	
Port Blair	86	N 26° E	72	N 40° E	79	N 42° E	75	N 64° E	66	S 31° W
Madras	71	N 7 E	61	N 63 E	76	S 75 E	91	S 60 E	42	S 54 E
Vizagapatam	58	S 71 E	40	S 11 E	54	S 55 W	67	S 43 W	64	S 53 W
Akyab	62	N 18 W	54	N 26 W	20	N 36 W	45	N 71 W	34	S 3 W
False point	29	N 34 E	18	S 4 W	58	S 45 W	84	S 45 W	67	S 48 W
Cuttack	29	N 1 W	21	S 28 W	47	S 6 W	67	S 8 W	42	S 13 W
Saugor Island	41	N 13 W	39	S 45 W	64	S 30 W	76	S 14 W	63	S 14 W
Chittagong	53	N 4 W	21	N 39 W	23	S 59 W	22	S 36 W	11	S 11 E
Calcutta	68	N 60 W	34	W	75	S 25 W	83	S 1 W	61	S 16 W
Jessore	82	N 10 W	46	N 60 W	27	S 48 W	63	S 4 E	58	S 22 E
Dacca	41	N 45 W	37	S 53 W	65	S 12 W	61	S 19 E	48	S 32 E
Cachar	47	S	42	S 27 E	31	S 79 E	36	S 69 E	24	S 15 E
Hazareebaugh	69	N 60 W	63	N 72 W	67	N 77 W	25	S 73 W	21	S 6 E
Berhampore	76	N 59 W	52	N 57 W	61	S 67 W	39	S 4 W	27	N 69 E
Gya	...	.....	...	.....	53	S 81 W	14	N 53 W	54	N 58 E
Patna	45	N 71 W	45	N 71 W	41	N 56 W	34	N 20 E	58	N 54 E
Monghyr	73	S 62 W	31	S 84 W	6	N 66 W	36	N 70 E	64	N 81 E
Darjeeling	20	N 64 W	37	S 68 W	24	S 85 W	48	N 80 W	16	S 72 W
Goalparah	30	N 85 E	28	S 78 E	55	N 81 E	60	S 77 E	61	S 83 E
Shillong	31	S 65 W	46	S 72 W	48	S 61 W	61	S 42 W	...	.....
Benares	36	N 57 W	24	N 40 W	40	N 58 W	17	N 17 E	53	N 74 E
Roorkee	45	N 42 W	17	N 2 E	36	N 46 W	12	N 58 W	32	S 48 E
Jabalpúr	47	N 15 E	26	N 36 W	44	N 85 W	49	N 88 W	58	N 85 W
Nágpúr	58	N 82 E	33	S 82 E	11	N 22 E	23	S 89 W	35	N 30 W

sultants for 1871.

June.		July.		August.		September.		October.		November.		December.	
100	S 45° W	96	S 40° W	100	S 45° W	76	S 35° W	86	N 48° E	91	N 46° E	21	S 41° E
52	S 14 W	68	S 29 W	50	S 31 W	45	S 18 E	6	N 59 W	65	N 42 E	81	N 45 E
73	S 65 W	73	S 72 W	57	S 74 W	70	S 16 E	59	S 72 E	74	N 82 E	67	N 87 E
71	S 6 W	85	S 7 E	69	S 8 W	43	S	3	S 81 E	52	N 36 W	58	N 14 W
67	S 71 W	68	S 67 W	66	S 69 W	52	S 30 W	12	N 3 W	45	N 38 E	63	N 46 E
69	S 42 W	55	S 29 W	68	S 53 W	40	S 10 W	15	N 46 W	18	N 15 E	45	N 49 E
74	S 20 W	59	S 13 W	50	S 30 W	62	S 2 E	31	N 54 W	37	N 56 W	49	N 24 E
64	S 54 E	63	S 51 E	61	S 46 E	34	S 30 E	30	N 24 W	73	N 4 W	70	N 23 W
65	S 2 W	74	S	61	S 6 W	85	S 11 E	27	S 73 W	56	N 83 W	50	N 64 W
61	S 38 E	63	S 24 E	50	S 22 E	50	S 20 E	20	N 52 E	20	N 23 W	31	N 6 W
79	S 27 E	85	S 24 E	74	S 21 E	66	S 17 E	11	S 64 E	18	N 36 W	43	N 35 W
18	S 1 E	5	N 8 E	9	S 88 E	8	N 63 E	12	E	11	S 48 E	17	S 60 E
36	S 28 E	20	S 39 E	28	S 82 W	57	S 55 E	41	N 58 W	63	N 67 W	52	N 60 W
31	S 73 E	37	S 65 E	45	N 49 E	59	N 42 E	53	N 18 E	39	N 56 W	49	N 34 W
54	S 84 E	19	N 87 E	22	S 40 W	45	S 88 E	17	S 87 W	35	S 89 W	11	N 38 W
67	N 76 E	45	S 68 E	30	S 57 E	37	S 87 E	8	N 1 W	10	N 72 W	8	N 62 W
68	S 86 E	51	S 77 E	16	S 18 E	65	S 80 E	24	N 75 W	46	W	43	S 82 W
27	S 8 W	31	S 38 E	39	S 43 E	10	S 58 E	32	N 81 W	37	N 85 W	21	S 36 W
30	S 51 E	25	S 41 E	27	S 42 E	24	S 49 E	54	S 81 E	49	N 79 E	48	S 88 E
42	S 24 W	34	S 53 W	9	S 35 W	22	S 63 W	27	S 39 W	22	N 86 W	29	N 37 W
35	S 72 E	12	S 54 E	30	S 67 W	51	S 79 E	14	N 62 W	30	N 63 W	6	N 35 W
62	S 46 E	38	S 40 E	11	S 36 E	10	S 14 W	27	S 41 E	19	N 55 W	11	N 40 W
69	S 87 W	81	N 89 W	73	S 81 W	42	N 46 W	32	N 59 W	24	N 9 E	22	N 22 E
61	N 76 W	76	N 82 W	70	N 78 W	54	N 50 W	58	N 24 E	53	N 70 E	51	S 74 E

Table XXII.—Average Wind

Calcutta 10 *years—Benares and Roorkee*

Station.	January.		February.		March.		April.		May.	
	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.
False Point	44	N 55 E	16	S 37 W	51	S 52 W	77	S 42 W	83	S 35 W
Cuttack	25	S 68 E	23	S 18 E	47	S 2 W	63	S 3 W	75	S 7 E
Saugor Island	30	N 4 E	38	S 54 W	62	S 40 W	76	S 22 W	82	S 6 W
Calcutta	40	N 38 W	23	S 79 W	47	S 33 W	74	S 3 W	65	S 12 E
Dacca	40	N 45 W	37	S 80 W	48	S 32 W	48	S 5 E	65	S 24 E
Berhampore	57	N 40 W	38	N 68 W	51	S 72 W	32	S 7 W	40	S 43 E
Hazareebaugh	60	N 70 W	58	N 77 W	61	N 85 W	32	S 89 W	17	S 36 W
Goalparah	30	S 86 E	30	S 88 E	27	N 75 E	45	N 88 E	58	S 86 E
Benares	33	N 75 W	37	N 87 W	38	N 76 W	37	N 70 W	24	N 14 W
Roorkee	18	N 63 W	25	N 22 W	27	N 59 W	14	N 81 W	11	S 30 W
Nagpur	43	N 74 E	16	N 70 E	6	S 15 W	24	N 59 W	47	N 40 W
Jabalpur	27	N 6 W	11	N 58 W	22	S 79 W	34	N 68 W	41	N 76 W

Table XXIII.—Average Diurnal

	January.		February.		March.		April.		May.	
	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.
Calcutta	3	104·5	3	114·8	4	133·1	4	203·9	4	209·7
Dacca	3	46·2	3	60·2	3	92·8	3	149·2	3	167·6
Hazareebaugh	3	98·0	3	131·4	3	147·6	3	168·4	3	187·3
Goalparah	3	90·2	3	129·0	3	167·9	3	196·2	3	173·0
Benares	3	55·6	3	73·3	3	66·2	3	62·9	3	87·3
Roorkee	4	40·2	4	47·0	3	51·5	3	64·7	3	73·8
Nagpur	2	70·1	2	85·8	2	99·9	3	116·4	2	162·1
Jabalpur	2	61·3	2	50·7	2	83·3	3	93·1	3	123·1

Resultants of several stations.

7 years—other Stations 3 years.

June.		July.		August.		September.		October.		November.		December.	
°/₀	Dir.	°/₀	Dir.	°/₀	Dir.	°/₀	Dir.	°/₀	Dir.	°/₀	Dir.	°/₀	Dir.
69	S 42 W	76	S 63 W	54	S 72 W	34	S 40 W	21	N 53 E	58	N 28 E	57	N 28 E
56	S 8 W	52	S 39 W	54	S 44 W	25	S 24 E	30	N 51 E	51	N 16 W	27	N 1 W
73	S 15 W	71	S 20 W	60	S 28 W	58	S 4 E	5	N 81 W	60	N 3 E	49	N 5 E
58	S 5 E	65	S 12 E	55	S 18 E	40	S 30 E	13	N 53 W	58	N 19 W	60	N 27 W
78	S 18 E	88	S 23 E	75	S 6 E	64	S 23 E	3	S 23 E	36	N 1 W	47	N 28 W
47	S 35 E	56	S 49 E	41	S 59 E	49	S 76 E	13	N 19 E	56	N 34 W	71	N 30 W
35	S 6 W	31	S 13 E	32	S 58 W	36	S 50 E	34	N 66 W	62	N 50 W	62	N 66 W
21	S 78 E	20	S 23 E	23	S 29 E	23	S 71 E	43	S 74 E	63	S 88 E	58	S 86 E
14	N 13 W	6	S 28 E	4	S 67 W	5	N 69 E	27	N 68 W	38	N 69 W	16	N 62 W
5	S 17 W	34	S 43 E	23	S 41 E	3	N 80 W	7	S 32 E	4	S 13 E	15	N 60 W
58	N 74 W	73	N 89 W	62	N 80 W	42	N 49 W	56	N 38 E	62	N 68 E	57	N 76 E
74	S 85 W	80	S 86 W	75	S 83 W	39	N 64 W	42	N 45 W	28	N 42 E	21	N 50 E

Movement of Wind in miles.

June.		July.		August.		September.		October.		November.		December.	
Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.
4	198·3	4	157·5	4	138·9	4	131·7	4	87·0	4	82·1	4	91·2
3	228·6	3	213·7	3	159·0	3	129·0	3	62·2	3	37·1	3	42·7
3	184·6	3	152·3	3	131·9	3	129·2	3	103·5	3	91·1	3	92·7
3	127·1	3	91·7	3	106·1	3	126·7	3	97·7	3	102·1	3	84·2
3	95·2	3	73·4	3	69·7	3	58·3	3	60·9	3	25·0	3	34·2
4	72·7	4	53·4	4	38·1	4	27·3	4	18·2	5	19·2	6	25·4
3	163·4	3	156·5	3	122·9	3	120·4	3	88·7	3	71·4	3	59·7
3	145·7	3	132·0	3	123·0	3	92·0	3	52·7	2	47·1	3	55·8

In the report for 1870, I gave a brief sketch of the wind system of Northern India, taken from the wind registers of thirteen stations, which up to that time has been worked up to a general result. Those of seven other stations* have now been discussed, and the velocity tables of past years have also been summarized. Some of these data are given in the annexed tables, but their complete discussion is reserved for publication in the form of a special paper on 'the Winds of Northern India', in which the relations of the air currents to temperature, pressure, &c., will be dwelt upon. The following extract from this MSS is a condensed account of the normal wind system as made out up to the present time :—

"The wind system of Northern India is very different from that of the adjoining seas. Instead of two monsoons from NE and SW prevailing alternately during almost equal periods of the year, we find a great diversity of prevalent wind currents, depending on the direction of the mountain ranges and valleys and proximity to the sea ; and with respect to period, to be classified rather under three than two distinct seasons ; excepting, indeed, in Upper Assam where the normal monsoons prevail. Thus, in the cold weather months, (November to January,) calms are very frequent, or the winds are light and flow from Upper India and the Panjab down the broad valley-plains of the Indus and the Ganges. A small portion of the latter current is drawn southwards across the hilly water-shed of Central India to join the NE monsoon of Central India, which appears to have a distinct source in the country to the south of the Sátpúras and of their easterly prolongation in Chutia Nagpur. Only in Upper Assam and possibly in the Upper Panjab at the two extremities of the Himalaya, the cold air of the trans-montane region finds an outlet to the southward, and streams, in the former case across the low Jynteah and Naga plateaux and the Tipperah Hills to the Bay of Bengal, in the latter over the broad plains of the Lower Indus to the Arabian Sea."

"With the approach of the hot weather, the winds of Northern and Central India draw round to the westward, and dry currents from the mountains and desert country lying west of the Indus, radiate out over the whole region as far as the Gangetic Delta ; becoming heated in their passage over the plains, until they form the well known hot winds of April and May. On the coasts of Orissa and the Delta, however, sea-winds begin to predominate as early as February, and gradually encroach upon the land winds, so that in the following months the opposing streams meet more or less obliquely in the hilly region that lies to west of the Delta and of the Orissa plains. These sea-winds are, however, essentially local ; restricted to the neighbourhood of the coast where they form a lower current of no great vertical thickness, and must be distinguished from the SW monsoon proper which does not set in till June. In Sind and the sandy plains of Bikaneer, southerly winds penetrate further inland, and their influence is felt as far as Multan and Ajmere, though the heat and

* These are Jhansie. False Point. Seebsaugor.
Roorkee. Berhampore.
Cuttack. Goalparah.

extreme aridity of the region traversed by them, prevents any condensation of their moisture such as takes place on the eastern side of the Peninsula.

In June, the SW Monsoon sets in over the seas that enclose the two sides of the Peninsula: that west from the Arabian Sea, sweeping across the Sahyàdri Mountains blows as a West, or WSW current, over Central India up to the very confines of the Gangetic plain, and across the Peninsula even to the coast of Orissa. The lower current from the Bay of Bengal passes into the funnel shaped opening occupied by the Delta, and then turning westward passes up the Ganges plain to the Upper Panjab; while upper currents sweep over the Hazareebaugh plateau in the same direction, and across the hills of Eastern Bengal towards the valley of Assam and the River gorges that afford an entrance to Tibet. In July and August the monsoon is at its height. It slackens in September, and the winds become gradually weaker and more conflicting up to the middle or latter part of October, when they are succeeded by the gentle land winds, and calms of the winter months."

In regard to velocity, the law of the winds is extremely simple. The velocities vary almost exactly with the differences of temperature in neighbouring regions. In respect to space, this is shown by its high velocity at stations on the coast line as compared with those 60 or 80 miles inland, and by the low velocity and frequency of calms at stations in the Gangetic plain where decrements of temperature are small over extensive areas. In respect to period by the high velocity in May and the earlier part of June when there is the greatest difference of temperature between the interior and the sea, and when the isothermals are most crowded; and by the quiescence of the air in October or November when the temperature is moderate and comparatively uniform.

The steadiness of the winds by no means necessarily varies with the velocity. Thus, for instance, at Calcutta, the NNW wind in November is as steady as the South wind in June, but its mean velocity in the former month is only two-fifths of that in the latter. The epoch of greatest steadiness varies indefinitely at different stations. At Calcutta on the mean of ten years it falls in April; at Saugor Island on the mean of three years in May; at Dacca in July and at Berhampore in December. It may be objected that a period of three years is too short to determine a point of this kind with any approach to confidence, and this would, no doubt, be true in a country in which the winds are less regular than in India; but I am disposed to believe that the more striking features of the present wind tables will be found to re-appear with little modification, when a longer series of registers shall have been accumulated and discussed.

In the first three months of 1871, the winds of Bengal were such as are usual at the time of year, except that in the early part of January they were somewhat more northerly. In April, the fall of atmospheric pressure in Behar and Western Bengal noticed in a previous part of the Report (p. 26), was

accompanied by a great weakening of the land winds of that region, and by a veering of those of the Delta towards SSE and SE. At the same time, the depression shown in the Roorkee register appears to have weakened the land winds of the North-West Provinces, and at Benares amid much variation, easterly winds were, on the whole, predominant over those from westerly quarters; whereas the latter, as a general rule, have a great preponderance in this month. In May, the excess of easterly elements was still more decided: and in latter half of the month, the winds were such as characterise the SW monsoon, but more easterly than is usual in the early part of that season; especially in Behar and the North-West Provinces. During these months, the velocity of the winds in Lower Bengal was much below the average, and this again is a characteristic of the the monsoon as contrasted with the hot weather. The excess of easterly winds continued during June, and it was not until July that the monsoon assumed its normal character. On the return of the winter monsoon in October and November, the land winds set in much as usual in Behar and the North-West Provinces; but in Bengal they were far less steady, and up to nearly the close of the year, the westerly or north-westerly winds are decidedly weaker than on the average.

I may here notice that the meteorology of the year further confirms the conclusion at which I arrived two years ago;* that the irregularities in the distribution of pressure and the consequent diversion of the wind currents, which may occur in any part of India, are generally persistent for many months, and thus impress a decided character on the season. We have seen this in the persistence of an abnormal barometric depression in Behar, the North-West Provinces and a portion of Central India, during the hot weather and the earlier part of the ordinary rainy season, and the consequent failure of the usual land winds, accompanied by early and heavy rains. Whether this depression was an effect in the first instance of the high temperature shown in the Benares register in January, and generally in the month of February, it is, perhaps, premature to pronounce upon: but seeing how intimate is the relation in general between temperature and pressure during the dry months of the year, I cannot but think this dependence probable.

Storms.

No cyclone was reported in the Bay of Bengal in 1871, excepted one that passed near Pondicherry, of which I have had no information beyond that afforded one or two short paragraphs in the newspapers. On the 24th, 25th and 26th October the weather at Calcutta and in the north-west of the Bay, was such as to warrant the belief that a cyclone was imminent; the warning signals were exhibited in Calcutta, and the shipping made ready for the expected gale; but happily the weather cleared on the afternoon of the latter day, and the

* Asiatic Society's Journal, Vol. xxxix, part 2, and Meteorological Report for 1869.

threatening appearances passed away. The following account of this meteorological disturbance will be not without interest, although somewhat imperfect, since it has been drawn up from land registers and the logs of the pilot ships only, and is wanting in details for the greater part of the Bay.

On the 21st and 22nd October, the lowest pressure appears to have been in the neighbourhood of the Andamans,* and the highest in the North-west of the Bay. At Port Blair the wind had been light from the North-east for about a week, and there were occasional showers; the temperature fluctuated but little. On the 21st the barometer fell, the pressure of the wind increased to 2¼lbs per square foot, an inch of rain-fall was registered, and the thermometer fell 4° or 5°. On the 22nd the wind changed to South-east and the pressure increased to 5·1lbs, an inch of rain fell, and the barometer having reached its lowest reading on the morning of that day, began to rise slightly. The total fall from the morning of the 19th to that of the 22nd was 0·1 inch. On the following days, up to the 26th, the wind remained in the same quarter, but with diminished pressure, and the barometer fluctuated very little. At stations on the Indian coast (the West coast of the Bay), the barometer fell steadily from the 21st to the 25th; the total fall was 0·14 at Madras, 0·24 at Vizagapatam, 0·3 at False Point, and 0·21 at Saugor Island; greatest, therefore, at False Point, where the pressure on the 25th was probably† lower than at any other station. The following table gives the mean pressure of the day, for each day of the period, at stations around the Bay, reduced to sea level.

	21st.	22nd.	23rd.	24th.	25th.	26th.
Port Blair ...	29·852	29·860	29·872	29·869	29·850	29·849
Akyab ...	·877	·916	·927	·881	·791	·704
Chittagong ...	·902	·914	·931	·911	·763	·665
Calcutta ...	·919	·911	·884	·840	·699	·699
Saugor Island ...	·901	·911	·874	·801	·689	·667
False Point ...	·972	·949	·906	·777	·678	·770
Cuttack ...	·925	·922	·873	·778	·683	·735
Vizagapatam ...	·909	·893	·822	·709	·664	·743
Madras ...	·899	·884	·823	·773	·756	·815

At Madras the wind was Northerly up to the 23rd, after which it veered to West-north-west and West, its velocity falling from 258 to 108 miles in the 24 hours. At Vizagapatam it was Easterly up to the evening of the 25th. On this day it backed from North-east through East and South to W. by N. the velocity falling with the change to West as at Madras. No rain fell at Vizagapatam till the 26th, and then only 0·1 inch. At False Point there had been little or no wind up to the 20th. On the three following days it blew lightly from North or North-east (1 or 2 of Beaufort's scale). On the 23rd it increased to 4 from the same quarter, and in the afternoon became squally, and 0·15 of rain fell. On the 24th it continued to below in squalls up to the

* The Port Blair register of the barometer is not strictly comparable with those of other stations, as the error of the instrument is not known.

† I say probably lower than at any other station, although the table shews Vizagapatam to be lower, but I think the False Point readings are too high. See *ante* p. 9.

evening, backing to East and South, and 7·4 inches of rain fell. In the evening it was from the West, and fell to light. On the afternoon of the 25th it set in again from the North with force 4, and blew in squalls all night and the following morning. On the afternoon of the 26th it changed to North-east, and fell calm.

At Saugor Island, the wind was Northerly up to the night of the 23rd. It then sprang up from SE and speedily veered to NE, gradually increasing in velocity up to the night of the 24th, and bringing heavy rain : 0·85 inches were registered on the 23rd, and not less than 13·19 inches on the 24th. On the following day it blew chiefly from between North and East, with a decrease in velocity from 318 to 277 miles, and 3·16 inches of rain were registered ; and on the 26th it veered once more to North, and increased to 429 miles in the 24 hours, but no further rain-fell. On the 27th it veered from North to West and fell to 139 miles.

At Calcutta, the wind was between North and East on the 21st and 22nd, and up to noon of the 23rd, when it backed to SE and ·03 inch of rain fell. It blew from between E and ESE up to the morning of the 25th, and then veered to ENE and to NE on the morning of the 26th. During this day it continued to veer to NW, and by the afternoon of the 27th had got round to WNW. The velocity increased from 91 miles on the 20th to 155 miles on the 22nd, and after a slight fall on the 23rd, to 173 miles on the 24th, 239 miles on the 25th, and 378 miles on the 26th. On the 27th it had fallen to 140 miles, and to 90 on the 28th : 5 inches of rain-fell in the three days—23rd to 25th.

So far the veering of the wind and the changes of the barometer are such as would indicate the passage of a cyclone passing over False Point to the East or NE across the head of the bay. But apart from the fact that such a course would be unprecedented, except the cyclone were in the act of breaking up, the wind velocity was far lower than it would be so near the vertex, and the registers of Chittagong and Akyab shew that no storm could have passed very near them. The barometers at both stations were, however, considerably depressed, and (an important point to notice) a day later than at False Point and Vizagapatam.

At False Point, the lowest reading (allowing for the diurnal tide, which was regular throughout) was on the morning of the 25th, when the wind was light and variable (force=1,) ; that is, in the middle of a lull of about 18 hours, before and after which it blew in squalls. Before the lull, it veered from N.E. round to S and afterwards came on from North. At Saugor Island the lowest barometric reading was on the morning of the 26th, but it was very nearly as low at the same hour of the 25th, and here too the tides were quite regular. On the evening of the 24th the wind blew for six hours with an average velocity of 16 miles an hour, but during the 25th only 11·5 miles on an average, and it rose again on the early morning of the 26th to an average of 25 miles an hour, the highest of these much below the velocity of a cyclone. During the 25th, as we have seen, the wind veered from SSE to NNE and North.

At the Sandheads, 50 miles S of Saugor Point and nearly 100 miles ENE of False Point, the logs of two Pilot Brigs (the *Celeroon* and the *Foam*), shew that, when at its height, the force of the wind was that of a fresh gale. On the 23rd it blew from ENE and NE during the day, and at 7½ P.M. shifted to SE, blowing hard, and increasing to a fresh gale by midnight from ESE. On the 24th it continued with unabated force from SSE and SE up to 6 P. M., when it moderated slightly, and the sea went down somewhat. The *Celeroon* having stood away for six hours to the Southward, and then to ENE for about the same period, had the wind fallen to light by midnight, and it so continued till daybreak, while she beat up for the station. On the forenoon of the 25th the wind freshened from SE by E with squalls and heavy rain; at noon it became variable, the sea was confused, and the weather appeared to be clearing to the SW. In the afternoon, it set in fresh from the NE, and by sundown had veered to NNE. Thus it continued till midnight, when it fell light, and the weather began to clear up. The *Foam*, which remained at anchor, experienced a gradual abatement of the storm from 6 P. M. of the 24th up to 10 A. M. of the 25th, and for the next six hours she records "Faint airs from SE, and showery." At 4-30 P. M., the wind having gone round by South and West to NW shifted to NE with heavy squalls and by 10, blew a moderate gale from North. At 11 A. M. of the 26th the wind moderated, veering to NW; in the afternoon it went on to WNW; falling to fresh and by 8 P. M., to light when the weather cleared up.

At Chittagong, the wind was Northerly or calm on the 24th and the morning of the 25th: on the afternoon of that day it backed to East, and during the next 24 hours veered to NE, afterwards backing to SW and West during the middle and latter part of the day. The velocity increased from 86 miles (in 24 hours) on the 24th to 153 miles on the 25th, and 220 miles on the 26th, after which it fell gradually. Here the lowest barometric reading was on the afternoon of the 26th. Two and a half inches of rain fell on the 25th, and three and a half on the 26th.

Lastly, at Akyab, the wind was NE, and light on the 24th; from SE on the 25th and morning of the 26th, and backed to SW on the forenoon of that day; blowing during these two days, 3 or 4 of Beaufort's scale (1 to 6). The lowest reading of the barometer was on the early morning of the 26th. It rained every day from the 23rd to the 28th, nearly three inches falling on the 25th, and two and a half on the 2 th.

From these details it is evident that many of the conditions of a cyclone were present, but the wind never attained the force of a hurricane. The probable explanation seems to be that there was a barometric depression over the bay, causing an indraught of the westerly wind from the south and notherly current in the north of the bay. Neither of these, however, were very strong. The westerly current being as usual the stronger, advanced northwards across the Peninsular, and occupied the greater part of the bay, where it curved round to SE much in cyclonic fashion. The north-easterly current continued, how-

ever, to blow in Bengal; and on the night of the 24th, 25th, it began to gain on the southerly wind, and an area of low barometer, extending from below False Point over Saugor Island, was enclosed between the two winds. Had this occured in the open sea to the south-east, doubtless a cyclone would have been formed, but the southerly current was slackening, and was driven back to the eastward and displaced by the north easterly wind; the barometric depression passing to the eastward, as the latter current gained on the former, until the northerly wind again held possession of the bay. The case is a very instructive one, and seems to me entirely to bear out the views I have expressed in previous reports and elsewhere on the formation of cyclones in the bay of Bengal.

Fredd. Lewis, Calcutta Central Press Company, Limited.

REPORT

OF THE

METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL.

METEOROLOGICAL ABSTRACT

For the year 1872.

By HENRY F. BLANFORD,

Meteorological Reporter.

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METEOROLOGICAL ABSTRACT FOR 1872.

Introductory Remarks.

The following report gives the meteorological data for 1872, for the same stations and in the same form as that of last year. No addition has been made to the number of the stations that contribute general registers, and Dr. Foster's departure from Nazeerah has deprived me of that, which, during three years, he contributed from Upper Assam. This and a few temporary hiatus in the tabulated results of individual stations are, however, the only deficiencies to be observed in the present report, as compared with that for 1871. On the other hand, the barometric table for the important station, Port Blair, has been reintroduced, together with that for the previous year, which was omitted from its regular place in the report, for the reasons therein stated. Also, I now give, for the first time, in addition to all the usual tables, one of vapour tensions, deduced from the psychrometric observations at all the regular stations. This has not been practicable in previous reports, owing to the inadequacy of the computing establishment of the office; but some progress has already been made in computing similar tables for past years, and it is intended to publish them when completed. The tables of average values of the principal meteorological elements now given, will be found more complete than those in last year's report, and include some stations beyond the limits of Bengal. These tables were drawn up with a view to a general discussion of the wind system of Northern India, and were embodied in a report lately submitted to Government. They are here reproduced as affording an *ad interim* standard with which to compare the results of the past year.

From the Central and the North-Western Provinces I have received regular abstracts of the results of those Provinces, which have enabled me to review the meteorology of the year in a more satisfactory manner than would be possible from the Bengal data alone, and I have to record my indebtedness to Dr. Murray Thomson and to Dr. J. Baker (Dr. Townshend's successor in the Central Provinces) for the regularity with which this assistance has been rendered. Captain Fyers, of Ceylon, and Dr. Randell, of Singapore, have continued also to communicate the valuable registers of Ceylon and the Straits' Settlements; but the Madras Presidency on the one side, and Burmah on the other, interpose extensive regions, very inadequately represented by the stations of Vizagapatam,* Madras, Akyab, and Port Blair, so that anything like a comprehensive discussion of the meteorology of the Indian area circumjacent to the Bay of Bengal, is not yet practicable.

* For this, as in previous years, I am indebted to Mr. A. V. Narsingrow.

The monthly mean values of the following meteorological elements are given in the present report :—

1. Atmospheric pressure.
2. Observed temperature of air.
3. Extreme temperatures of air (self-registered).
4. Temperature of solar radiation.
5. Temperature of grass nocturnal radiation.
6. Vapour tension.
7. Relative humidity.
8. Serenity (proportion of unclouded sky).
9. Rainfall.
10. Number of days of rainfall.
11. Wind direction.
12. Mean diurnal movement of wind.

Some of the tables show deficiencies, chiefly in the observations of the night hours, but these are not very numerous. All the instruments employed have been verified and corrected as far as possible. The registers have all been examined, and the reductions checked in the meteorological office, and all observations that are manifestly erroneous have been rejected, as in former years.

Hours of Observation.

The barometer, dry and wet bulb thermometers, and wind direction, are observed at 4h., 10h., 16h., and 22h., at all the stations except Port Blair and Madras, Dehree and Arrah. From these stations only two sets of observations daily are received, *viz.*, those of 10h. and 16h. All minimum thermometers are read at 10h., and the maximum thermometers and the rain-gauge at 18h. Local time is observed at all stations.

Stations.

The following table gives the geographical positions of all the stations of observation ; also the elevation of the barometers above sea-level ; or the elevation of the general ground level of the station, if the exact elevation of the instrument has not been ascertained. I append, moreover, a brief description of the physical geography of each station, as far as I am able to do so from a personal knowledge of the place, or from trustworthy information.

Table I.—Latitude, Longitude, and Elevation of Stations.

Stations.	Lat. N.	Long. E.	Elevation in feet.	How determined.	Remarks.
Port Blair ...	11° 41′	92° 42′	110	?	
Madras ...	13° 5′	80° 70′	27	?	Barometer Cistern.
Vizagapatam ...	17° 42′	83° 22′	31	?	
Akyab ...	20° 8′	92° 57′	21	By Spirit Level ...	Ditto.
False Point ...	20° 20′	86° 47′	18·7	Ditto ...	Light-House, B. M.
Cuttack ...	20° 29′	85° 54′	80	Ditto	Barometer Cistern.
Saugor Island ..	21° 39′	88° 5′	6	Estimated ...	Barometer Cistern approx.
Chittagong ...	22° 21′	91° 50′	90	By Spirit Level ...	Barometer Cistern.
Calcutta ...	22° 33′	88° 21′	18·11	Ditto ...	Ditto.
Jessore ...	23° 9′	89° 7′	20	By Barometer ...	Ditto.
Dacca ..	23° 43′	90° 27′	35	Measured above Ground Level. G. L. estimated.	Ditto.
Hazareebagh ...	24°	85° 24′	2,014	By Spirit Level to G. T. B. M.	Ditto.
Berhampore ...	24° 6′	88° 17′	65	Ditto ...	Ditto approx.
Gya (1) ...	24° 42′	85° 2′	347	By Barometer ...	Ditto.
Dehree ...	25° 54′	84° 13′	362	By Spirit Level ...	Aneroid.
Patna ...	25° 37′	85° 8′	179	Ditto ...	Barometer Cistern.
Arrah ...	25° 34′	84° 43′	195	Ditto ...	Aneroid.
Monghyr ...	25° 22′	86° 30′	160·4	Ditto ...	Barometer Cistern.
Silchar ...	24° 49′	92° 50′	88·91	By Trig. ...	Ditto.
Shillong ...	25° 32′	91° 54′	4,792	By Barometer ...	Ditto.
Goalparah ...	26° 11′	90° 40′	386	By Spirit Level to G. T. S. B. M.	Ditto.
Darjeeling ...	27° 3′	88° 18′	6,941	By Trig. ...	Ditto approx.
Benares ...	25° 20′	83° 2′	262·74	By Spirit Level ...	Ditto.
Roorkee ...	29° 52′	77° 56′	879·7	Ditto ..	Ditto.

(1) Provisionally taken at 336 feet in the Report for 1871. Now corrected by a further comparison of the barometric readings for 1872, with those of Patna, Monghyr, Arrah, Dehree, and Hazareebagh.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger island. A range of mountains runs through the island from north to south, protecting Port Blair, in some measure, from the south-west monsoon. The Observatory is situated on Viper Island, a small rocky islet, some distance up the harbour.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's Mount and Palaveram (seven and ten miles from Fort St. George). The country rises gradually to the westward, forming the plains of the Carnatic or Payen-ghaut, and the nearest hills of considerable elevation are the Naggery Hills, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Vizagapatam.—This station is situated on the coast, about midway between the Chilka Lake and the delta of the Godavery. It is the only part of the Coromandel Coast at which the hills advance actually to the sea-board. At Vizagapatam they form a promontory, known as the Dolphin's nose, which encloses a small bay, at the head of which the station is built. The interior is hilly, and covered with jungle, and has a bad reputation for fever.

Akyab, on the coast of Arakan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne River, much of which is flooded in the rainy season. The Arakan Hills, covered with an almost impenetrable jungle, are at a distance of about twenty miles to the north-east of the station; and the harbour which is formed by the estuary of the Koladyne is partly closed on the south by a group of islands, the hills of which are 500 or 600 feet in height.

False Point.—The Light-house is a conspicuous land-mark on the coast of Orissa, standing on a prominent point of the Mahanuddy delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant fifty miles. The coast-line trends about north-east and south-west; so that winds from east and south are sea winds, those from west and north, land winds.

Cuttack is built on flat alluvial ground at the head of the Mahanuddy delta. The river, one of the largest in the peninsula of India, issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches, the Kajouri and the Mahanuddy, in the fork of which Cuttack is situated. To the west and north the country is hilly, and much covered with jungle, while to east and south of the station stretches the delta of the Mahanuddy, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island.—The telegraph station at which is also the Meteorological Observatory, is situated close to the south-west extremity of Saugor Island (one of the low-lying alluvial islands of the Sunderbuns), and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal; to the west and north-west the estuary of the Hooghly, here about twenty miles broad, with the low marshes of Hidgellee beyond; to the east and north-east stretch the swampy jungles of the Sunderbuns, much of which are flooded at spring tides. Indeed, the station itself is below high-water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arakan mainland, in the extreme north-east corner of the Bay of Bengal, and opposite to the embouchure of the Megna, the largest estuary of the Gangetic delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, forms the port of Chittagong, and enters the sea three miles below. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of a more elevated plain, formed of highly inclined (tertiary ?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about twenty miles distant. Thus situated, the station is exposed to the brunt of the south-west monsoon; and the rainfall, as along all the Arakan Coast, is comparatively heavy.

Calcutta is situated sixty-eight miles from the sea, and about the same distance from the western edge of the Gangetic alluvium, which formation stretches away northward to the Himalaya, four hundred miles distant, and eastward for two hundred miles, nearly to the Tipperah Hills. About three miles to the east of Calcutta is the margin of the Salt Lake, a shallow brackish lagoon in an unfilled depression of the delta. To the south of this, much of the Sunderbun land is still unreclaimed from jungle, but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jheels) occur in many directions around Calcutta and over all parts of the delta. The climate of Calcutta is therefore moist, and the herbage green throughout the year. The thermometric range, both annual and daily, is less than at stations higher up the country; the latter, in the driest month of the year (March), does not exceed 19° or 20°.

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca.—Between the former course of the Brahmaputra (still in its lower part a broad channel, the Megna), and that which the river now follows to its confluence with the Pudda or Ganges at Goalundo, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at its southern extremity, within a few miles of the Megna, on the bank of a small branch of the Brahmaputra. To the south is a network of broad rivers stretching to the sea, and in other directions (except the north) rice land and grass jungle, which are flooded in the rains. At that time of the year, with the exception of the Madhopore jungle, but little land is visible.

Darjeeling, on a spur of the Singalelah range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The Electric Telegraph Office, at which the thermometer, barometer, and rain-gauge are kept, is in the latter position, a little below the summit. The wind vane, &c., are on the crest of the ridge.

Silchar.—This station is situated on the left bank of the Barak River, on an alluvial plain, but little elevated above the flood-level of the river. Ridges of low forest-clad hills run southwards from the river bank at intervals of six or eight miles; and the intervals are occupied by plains, a great part of which are under water in the rains, and in the dry weather are converted into beels or swamps, and (where cleared of forest) rice-fields. Twenty or thirty miles to the south of the station, the ridges above-mentioned run up into the hill country of South Cachar, the mean elevation of which is from 1,000 to 2,000 feet; and at ten miles to the north of the river are the Naga Hills (an eastern extension of the Garo and Khasi plateau). About twenty miles to the eastward the valley is nearly closed by the Burrail range.

Shillong, on the northern slope of the Khasi Hills, overlooking the valley of Assam. It is but thirty miles north of Cherra Poonji (the rainfall of which is well known to be the heaviest anywhere yet recorded) ; but three ridges of greater elevation intervene ; and the rainfall at Shillong, though frequent, is by no means excessive, amounting only to 81·45 inches on the average of five years. Shillong Hill, one of the highest on the Khasi plateau, is immediately to the south of the station, which lies in a broad valley between the main ridge and one of its spurs. The hills are generally covered with coarse grass, patches of pines being scattered here and there, but not attaining to a very vigorous growth. The hills fall away very gently to the Brahmaputra, which is at a distance of about sixty miles.

Goalparah is on the south bank of the Brahmaputra, near the lower termination of the Assam Valley. The Observatory is situated on a hill close to the station, 249 feet above the river,* and 386 feet above sea-level. It is described as the only open spot about the station. To the south are the Garo Hills.

Berhampore, one hundred and seventy miles from the sea, on the left bank of the Bhagirati, thirty miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground rises from a short distance to the west of the river up to the foot of the Rajmehal Hills and the undulating country of Beerbhoom.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the north extremity of the Kurruckpore range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quarzites, and preserving the same mineral characters they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain ; to the south and south-east, the rocky and elevated country of Hazareebagh and the Damin-i-koh, chiefly covered with forest, and of which the Kurruckpore Hills form the north-western corner.

Hazareebagh is situated in the elevated and hilly country south of the Ganges, and between its delta and the valley of the Sone. To the south of the station the ground falls rapidly to the Damoodah ; to the north it declines gently to a lower part of the plateau, traversed by the Great Trunk Road, which at Burhee (due north of Hazareebagh) has an elevation of 1,160 feet. The country is undulating or hilly, and much covered with jungle.

Gya.—This station is situated sixty miles south of Patna, on the plain lying to westward of the range which bounds the Hazareebagh and Parasnath plateau on the west, and at an elevation of about 350 feet above the sea. Since

*Above the highest water-mark.

this plateau, having a mean elevation of 1,100 to 1,300 feet, with hill masses of much greater height, intervenes between the Bay of Bengal and the plain of Gya, and must be traversed by the south-east winds which bring the rains to Behar and the N. W. Provinces, the climate of Gya is hot and dry.

Dehree, on the left bank of the Sone River, near the crossing of the Great Trunk Road, and within a few miles of Sasseram. The escarpment of the Rewah plateau is about seven miles distant to the south-west. On the south and east the hill country of Palamow and the Hazareebagh plateau rises from the alluvial plain to the right of the river, at a distance of about forty miles; and on the north the alluvial plain of Shahabad extends uninterruptedly to the banks of the Ganges.

Patna, on the south bank of the Ganges, below the confluence of the Sone, and surrounded by the alluvial plains of these rivers.

Arrah, on the alluvial plain of Shahabad, sixty miles west of Patna, and about the same distance north by east from Dehree.

Benares, on the north bank of the Ganges, one hundred and eighty miles west of Patna. From the south bank of the river, the alluvium extends to the foot of the Kymore plateau, which intervenes between the valleys of the Ganges and the Sone. To the north is the flat alluvial plain of Oude.

Roorkee, near the head of the Ganges canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

Atmospheric Pressure.

Mercurial barometers have been in use at all stations, except Shillong, Arrah, and Dehree. Casella's small standards, with tubes 0·4 inch diameter, were supplied to Jessore, Akyab, Chittagong, and Hazareebagh in the earlier part of 1871, and subsequently, to the following six stations, where they have been brought into use from the dates specified in each case :—

Berhampore, 22nd December 1871.
Monghyr, 30th „ 1871.
Patna, 2nd January 1872.
Dacca, 2nd February 1872.
Port Blair, 1st October 1872.
Cuttack, 16th December 1872.

Since the beginning of 1873, Silchar and a new station, to be established at Camorta, one of the Nicobar Islands, have been furnished with similar instruments.

Prior to the dates specified, Adie's mountain barometers (on Fortin's principle) with narrow tubes were in use at all the above stations, and such are still observed at Saugor Island, Gya, and Goalparah. At False Point a marine barometer of the Fitzroy pattern has been registered since 1865. This was

replaced on the 1st January 1872 by a marine barometer on the Kew principle. The Calcutta standard barometer, to which all the registers have been corrected, is a Newman's standard instrument. It reads, according to a recent determination, 0·011 higher than the Kew standard.

At stations out of Bengal, not enumerated above, my information is as follows:—At Roorkee, a Casella's standard was in use from February to the beginning of July, and in other months two mercurial barometers of different construction. At Benares, a marine barometer, graduated on the Kew principle, has been employod since 1867. At Madras, a Newman's standard similar to that of Calcutta, and at Vizagapatam a "self-compensating standard."

In the Central Provinces, it appears, from a list sent to me by Dr. Townshend at the beginning of last year, that aneroids were in use at all stations, except Nagpore, Jubbulpore, and Seoni, up to the end of 1871; but that in the beginning of 1872, mercurial mountain barometers were substituted for them at Hoshungabad, Puchmurree, Raepore, and Khandwa.

Table II. gives the mean pressure of each month at each hour of observation, and the mean of the month. The last is in most cases assumed to be given by the mean of the four sets of observations recorded at intervals of six hours. For three months at Cuttack, one month at Akyab, and two months at Shillong, the 4 A. M. registers of which are untrustworthy, and have therefore been rejected, I have applied to the mean of the remaining observations a correction obtained empirically from the registers of previous years.

The barometric registers of Hazareebagh for the first six months of the year, and also for October, have also been rejected as erroneous, and those of Dehree for the last seven months have been rejected for the same reason.

In the case of Port Blair, Madras, Arrah, and Dehree, for which stations I have observations for 10 P. M. and 16 hours only, the mean of these is provisionally adopted as the mean of the 24 hours and distinguished by an (*) *

Table III. gives the mean monthly pressures for seven additional stations in the North-West Provinces and the Central Provinces, which I have taken from the *Gazettes* of those Provinces, and four stations in Ceylon correcting them, in the case of the first and last, to the Calcutta standard. The means of Nagpore and Jubbulpore are those of observations at 10 hours and 16 hours; those of the remaining stations are then the same and the corresponding night hours, as are those of the majority of the Bengal stations.

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* The December register of Port Blair is wanting, not having been received up to the time of going to press. Those for the last three months of the year at Silchar are also withheld until the correction of the barometer then in use shall have been ascertained.

Table IV. gives the monthly means of both the preceding tables reduced to sea-level, omitting the hill stations Darjeeling and Shillong. In the case of stations below 500 feet, these values are obtained by adding to the mean of the observations the barometric weight of a column of air of the mean temperature of the month, and of a height equal to that of the barometer above sea-level (taken from Table IV. of Buchan's Handy-book.) In the case of stations above 500 feet (none of which are properly hill stations), I have used Dippe's tables given in Guyot's collection of tables, but adopting for the temperature correction an increment of 1° Fahr. for each 450 feet of elevation instead of 1° Reaumur for each 100 toises. The latter has been found by a late investigation to be much too great in the case of stations situated on plains and plateaux; and, while there appears to be a great variation in its value according to the season, the average of the year is about that which I have adopted.

In Table V. I give the average pressure of each month at 25 stations in Bengal, the North-Western and Central Provinces, and in Table VI. the differences of the pressures of 1872 from these means.

Table II.—Mean Monthly Pressures for 1872.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	*29·887		29·945	29·830		·115
February	*29·884		29·937	29·832		·105
March	*29·862		29·918	29·806		·112
April	*29·776		29·821	29·731		·090
May	*29·727		29·771	29·683		·088
June	*29·699		29·736	29·653		·083
July	*29·713		29·748	29·679		·069
August	*29·711		29·744	29·678		·066
September	*29·749		29·799	29·699		·100
October	*29·765		29·806	29·725		·081
November	*29·802		29·845	29·760		·085
December		Not	received.			

MADRAS.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	*29·993		30·051	29·935		·116
February	*29·959		30·020	29·898		·122
March	*29·907		29·969	29·845		·124
April	*29·821		29·878	29·763		·115
May	*29·702		29·756	29·649		·107
June	*29·687		29·737	29·637		·100
July	*29·711		29·769	29·654		·115
August	*29·716		29·774	29·658		·116
September	*29·761		29·822	29·699		·123
October	*29·808		29·863	29·753		·110
November	*29·887		29·939	29·836		·103
December	*29·941		29·994	29·887		·107

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·001	29·969	30·064	29·945	30·026	·119
February	29·941	29·910	30·012	29·879	29·964	·133
March	29·860	29·832	29·925	29·801	29·884	·124
April	29·791	29·767	29·852	29·732	29·811	·120
May	29·666	29·642	29·720	29·613	29·687	·107
June	29·605	29·592	29·646	29·552	29·630	·094
July	29·597	29·575	29·637	29·549	29·628	·088
August	29·606	29·587	29·650	29·550	29·636	·100
September	29·707	29·685	29·760	29·648	29·733	·112
October	29·781	29·746	29·830	29·736	29·811	·094
November	29·911	29·883	29·971	29·863	29·929	·108
December	29·959	29·929	30·023	29·907	29·979	·115

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·008	29·981	30·071	29·954	30·026	·117
February	29·957	29·926	30·025	29·907	29·971	·118
March	29·886	29·862	29·951	29·832	29·899	·119
April	29·810	29·789	29·877	29·752	29·823	·125
May	29·733	29·728	29·778	29·675	29·750	·103
June	29·677	29·675	29·716	29·622	29·696	·094
July	29·673	29·654	29·708	29·628	29·701	·080
August	29·681	29·659	29·723	29·630	29·712	·093
September	29·771	29·762	29·820	29·712	29·790	·108
October	29·829	.....	29·870	29·778	29·858	·092
November	29·904	29·881	29·955	29·850	29·929	·105
December	29·936	.....	29·992	29·883	29·951	·109

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·048	30·026	30·109	30·000	30·057	·109
February	29·966	29·952	30·027	29·916	29·971	·111
March	29·872	29·860	29·919	29·821	29·890	·098
April	29·793	29·785	29·843	29·738	29·807	·105
May	29·671	29·665	29·714	29·613	29·692	·101
June	29·552	29·542	29·593	29·502	29·570	·091
July	29·568	29·554	29·595	29·522	29·600	·073
August	29·592	29·579	29·628	29·542	29·619	·086
September	29·731	29·725	29·775	29·674	26·752	·101
October	29·819	29·800	29·863	29·770	29·841	·093
November	29·953	29·938	30·004	29·903	29·967	·101
December	29·994	29·987	30·047	29·938	30·003	·109

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·945	29·930	30·027	29·881	29·978	·146
February	29·877	29·853	29·951	29·804	29·901	·147
March	29·783	29·764	29·851	29·705	29·812	·146
April	29·704	29·689	29·769	29·635	29·721	·134
May	29·599	29·611	29·648	29·523	29·615	·125
June	29·496	...	29·546	29·452	29·522	·094
July	29·511	...	29·547	29·474	29·533	·073
August	29·539	...	29·581	29·494	29·563	·087
September	29·676	29·674	29·720	29·623	29·688	·097
October	29·763	29·740	29·810	29·723	29·778	·087
November	29·901	29·883	29·948	29·858	29·913	·090
December	29·928	29·906	29·987	29·882	29·935	·105

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·036	30·008	30·100	29·983	30·053	·117
February	29·964	29·934	30·034	29·914	29·976	·120
March	29·871	29·846	29·930	29·819	29·888	·111
April	29·782	29·762	29·849	29·722	29·795	·127
May	29·671	29·652	29·721	29·613	29·697	·108
June	29·556	29·538	29·598	29·507	29·580	·091
July	29·575	29·547	29·612	29·532	29·609	·080
August	29·597	29·573	29·636	29·549	29·632	·087
September	29·733	29·714	29·789	29·676	29·755	·113
October	29·829	29·804	29·876	29·783	29·853	·093
November	29·954	29·927	30·012	29·903	29·975	·109
December			Untrustworthy.			

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·947	29·916	29·995	29·902	29·976	·093
February	29·901	29·880	29·958	29·851	29·917	·107
March	29·809	29·779	29·874	29·756	29·826	·118
April	29·736	29·713	29·796	29·684	29·750	·112
May	29·649	29·631	29·699	29·602	29·664	·097
June	29·576	29·560	29·615	29·524	29·607	·091
July	29·572	29·550	29·609	29·524	29·603	·085
August	29·581	29·564	29·621	29·528	29·612	·093
September	29·694	29·682	29·748	29·633	29·714	·115
October	29·764	29·740	29·815	29·708	29·792	·107
November	29·848	29·823	29·897	29·801	29·872	·096
December	29·885	29·862	29·943	29·841	29·895	·102

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·026	29·993	30·103	29·969	30·041	·134
February	29·960	29·932	30·037	29·905	29·967	·132
March	29·845	29·820	29·917	29·782	29·860	·135
April	29·760	29·740	29·828	29·694	29·778	·134
May	29·654	29·638	29·709	29·590	29·679	·119
June	29·556	29·542	29·603	29·503	29·577	·100
July	29·569	29·549	29·607	29·519	29·600	·088
August	29·590	29·566	29·633	29·534	29·625	·099
September	29·725	29·706	29·780	29·664	29·748	·116
October	29·827	29·798	29·884	29·774	29·852	·110
November	29·945	29·919	30·008	29·892	29·962	·116
December	29·979	29·951	30·050	29·925	29·988	·125

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·020	29·999	30·076	29·956	30·051	·120
February	29·955	29·930	30·018	29·898	29·975	·120
March	29·831	29·801	29·902	29·764	29·857	·138
April	29·753	29·734	29·813	29·681	29·784	·132
May	29·656	29·643	29·706	29·591	29·684	·115
June	29·568	29·549	29·612	29·510	29·600	·102
July	29·572	29·557	29·604	29·519	29·609	·085
August	29·593	29·571	29·636	29·530	29·635	·106
September	29·720	29·706	29·756	29·662	29·755	·094
October	29·824	29·798	29·873	29·768	29·857	·105
November	29·939	29·915	29·993	29·883	29·964	·110
December	29·965	29·937	30·028	29·915	29·981	·113

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	30·007	29·978	30·078	29·948	30·026	·130
February	29·941	29·916	30·011	29·884	29·953	·127
March	29·823	29·812	29·889	29·755	29·836	·134
April	29·751	29·741	29·814	29·682	29·766	·132
May	29·664	29·654	29·723	29·607	29·673	·116
June	29·589	29·578	29·635	29·533	29·609	·102
July	29·579	29·566	29·616	29·526	29·607	·090
August	29·601	29·587	29·646	29·537	29·633	·109
September	29·719	29·706	29·773	29·657	29·739	·116
October	29·810	29·789	29·866	29·753	29·833	·113
November	29·916	29·894	29·972	29·864	29·933	·108
December	29·950	29·930	30·012	29·897	29·962	·115

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·951	29·932	30·018	29·883	29·972	·135
February	29·893	29·876	29·969	29·830	29·898	·139
March	29·796	29·773	29·877	29·728	29·805	·149
April	29·736	29·719	29·810	29·670	29·744	·140
May	29·648	29·633	29·716	29·585	29·657	·131
June	29·572	29·562	29·622	29·513	29·592	·109
July	29·556	29·551	29·604	29·490	29·579	·114
August	29·567	29·557	29·623	29·494	29·593	·129
September	29·683	29·685	29·743	29·608	29·699	·135
October	} Registers for these months uncorrected.					
November						
December						

HAZAREEBAGH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	Registers for these months untrustworthy.					
February						
March						
April						
May						
June						
July	27·563	27·548	27·607	27·517	27·580	·090
August	27·590	27·564	27·641	27·549	27·606	·092
September	27·726	27·707	27·786	27·680	27·731	·106
October	Untrustworthy.					
November	27·940	27·917	27·992	27·898	27·952	·094
December	27·960	27·937	28·012	27·921	27·969	·091

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·984	29·966	30·048	29·921	30·001	·127
February	29·911	29·898	29·977	29·850	29·919	·127
March	29·780	29·771	29·847	29·708	29·794	·139
April	29·691	29·679	29·767	29·612	29·707	·155
May	29·589	29·585	29·652	29·512	29·605	·140
June	29·511	29·504	29·562	29·446	29·531	·116
July	29·514	29·505	29·554	29·454	29·541	·100
August	29·537	29·528	29·585	29·471	29·565	·114
September	29·674	29·668	29·729	29·607	29·691	·122
October	29·783	29·772	29·837	29·723	29·800	·114
November	29·903	29·897	29·962	29·841	29·912	·121
December	29·933	29·916	29·999	29·875	29·943	·124

GYA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·696	29·658	29·761	29·641	29·725	·120
February	29·613	29·573	29·680	29·572	29·628	·108
March	29·486	29·473	29·556	29·419	29·498	·137
April	29·384	29·366	29·455	29·322	29·393	·133
May	29·254	29·247	29·310	29·182	29·277	·128
June	29·165	29·150	29·222	29·097	29·190	·125
July	29·184	29·175	29·223	29·113	29·224	·110
August	29·219	29·207	29·263	29·155	29·253	·108
September	29·368	29·356	29·425	29·302	29·388	·123
October	29·497	29·477	29·551	29·441	29·519	·110
November	29·623	29·597	29·686	29·567	29·641	·119
December	29·654	29·631	29·721	29·589	29·674	·132

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·870	29·841	29·934	29·810	29·895	·124
February	29·807	29·785	29·864	29·747	29·833	·117
March	29·663	29·635	29·736	29·589	29·693	·147
April	29·562	29·535	29·630	29·494	29·591	·136
May	29·449	29·423	29·514	29·380	29·478	·134
June	29·357	29·334	29·416	29·297	29·382	·119
July	29·346	29·316	29·399	29·290	29·379	·109
August	29·383	29·347	29·434	29·333	29·418	·101
September	29·532	29·502	29·590	29·479	29·555	·111
October	29·667	29·644	29·718	29·617	29·688	·101
November	29·794	29·770	29·850	29·739	29·818	·111
December	29·821	29·799	29·881	29·761	29·843	·120

ARRAH.

	Mean.	10h.	16h.	Range.
January	29·868	29·909	29·827	·082
February	29·798	29·846	29·751	·095
March	29·684	29·737	29·632	·105
April	29·542	29·609	29·476	·133
May	29·402	29·463	29·342	·121
June	29·308	29·370	29·246	·124
July	29·312	29·366	29·259	·107
August	29 345	29·397	29·293	·104
September	29·508	29·566	29·450	·116
October	29·639	29·690	29·588	·102
November	29·794	29·847	29·742	·105
December	29·828	29·880	29·776	·104

DEHREE.

	Mean.	10h.	16h.	Range.
January	29·709	29·762	29·656	·106
February	29·640	29·697	29·584	·113
March	29·502	29·583	29·422	·161
April	29·377	29·435	29·319	·116
May	29·240	29·300	29·181	·119
June	From June the register is evidently erroneous.			
July				
August				
September				
October				
November				...
December				

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·890	29·865	29·960	29·838	29·896	·122
February	29·810	29·779	29·883	29·760	29·817	·123
March	29·677	29·661	29·749	29·615	29·682	·134
April	29·585	29·575	29·658	29·520	29·587	·138
May	29·484	29·481	29·542	29·416	29·497	·126
June	29·397	29·391	29·448	29·333	29·415	·115
July	29·403	29·391	29·445	29·351	29·423	·094
August	29·426	29·411	29·478	29·364	29·451	·114
September	29·564	29·549	29·625	29·502	29·579	·123
October	29·689	29·670	29·745	29·638	29·703	·107
November	29·815	29·786	29·881	29·766	29·826	·115
December	29·851	29·829	29·920	29·797	29·858	·123

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	23·389	23·370	23·409	23·371	23·407	·038
February	23·341	23·324	23·362	23·321	23·356	·041
March	23·379	23·364	23·397	23·361	23·395	·036
April	23·345	23·333	23·369	23·323	23·356	·046
May	23·319	23·306	23·339	23·299	23·330	·040
June	23·280	23·264	23·301	23·266	23·291	·035
July	23·267	23·248	23·289	23·253	23·279	·036
August	23·299	23·284	23·316	23·287	23·311	·029
September	23·372	23·360	28·391	23·356	23·382	·035
October	23·417	23·407	23·434	23·397	23·428	·037
November	23·445	23·436	23·460	23·426	23·457	·034
December	23·405	23·397	23·422	23·383	23·420	·039

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·606	29·602	29·661	29·541	29 620	·120
February	29·555	29·549	29·614	29·491	29·567	·123
March	29·457	29·462	29·513	29·380	29·472	·133
April	29·367	29·368	29·428	29·289	29·381	·139
May	29·309	29·303	29·366	29·244	29 321	·122
June	29·245	29·234	29·301	29·189	29·255	·112
July	29·209	29 202	29·260	29·158	29·216	·102
August	29 271	29·259	29 327	29·217	29·282	·110
September	29·392	29·386	29·451	29·332	29·401	·119
October	29·514	29·503	29·579	29·452	29·524	·127
November	29·597	29·594	29·655	29 529	29·612	·126
December	29·616	29·621	29·665	29·550	29·627	·115

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	25·253	25·230	25·303	25·196	25·281	·107
February	25·205	25·180	25·257	25·150	25·234	·107
March	25·194	25·170	25·238	25·141	25·227	·097
April	25 193	25·169	25·235	25·147	25·222	·088
May	25·115	25·100	25·152	25·073	25·137	·079
June	25 065	25·046	25·100	25·029	25·086	·071
July	25·045	25·032	25·077	25·007	25·066	·070
August	25·059	25·042	25·095	25·020	25·078	·075
September	25·163	25·150	25·201	25·119	25·182	·082
October	25·229	.....	25·264	25·190	25·245	·074
November	25·285	.....	25 321	25·248	25·299	·073
December	25·270	25·262	25·308	25·231	25·281	·077

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·804	29·778	29·864	29·760	29·813	·104
February	29·729	29·703	29·791	29·689	29·733	·102
March	29·613	29·595	29·675	29·563	29·617	·112
April	29·510	29·497	29·572	29·467	29·505	·105
May	29·382	29·379	29·434	29·336	29·379	·098
June	29·291	29·281	29·340	29·251	29·292	·089
July	29·289	29·273	29·322	29·239	29·323	·083
August	29·327	29·309	29·377	29·280	29·344	·097
September	29·473	29·463	29·525	29·421	29·482	·104
October	29·606	29·587	29·654	29·557	29·625	·097
November	29·735	29·723	29·794	29·688	29·738	·106
December	29·762	29·749	29·825	29·702	29·771	·123

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Range.
January	29·131	29·100	29·191	29·108	29·124	·083
February	29·072	29·045	29·120	29·036	29·089	·084
March	28·980	28·963	29·029	28·938	28·990	·091
April	28·877	28·859	28·930	28·833	28·887	·097
May	28·746	28·736	28·805	28·698	28·744	·107
June	28·640	28·637	28·704	28·590	28·630	·114
July	28·675	28·669	28·721	28·643	28·668	·078
August	28·693	28·681	28·743	28·662	28·685	·081
September	28·842	28·838	28·897	28·807	28·827	·090
October	28·973	28·957	29·032	28·948	28·954	·084
November	29·116	29·127	29·118	29·090	29·128	·028
December	29·096	...	29·154	29·039	...	·115

Table III.—Barometric Monthly means of additional Stations in the N. W. Provinces, Central India, and Ceylon, for 1872.

	Elevation in feet.	January.	Feb.	March.	April.	May.	June.	July.	Augt.	Sept.	Oct.	Nov.	Dec.	Year.
Jhansi	836	29·155	29·107	29·033	28·913	28·811	28·699	28·715	28·737	28·879	28·982	29·103	29·160	28·941
Allahabad	290	·466	·683	·576	29·519	29·346	29·241	29·253	29·276	29·479	29·551	·673	·724	29·842
Lucknow	364	·696	·633	·518	·402	·290	·185	·195	·204	?	?	?	·645	?
Agra	532	·517	·423	·324	·200	·068	28·969	28·978	·013	·169	·311	·429	·460	29·238
Bareilly	570	·494	·393	·290	·188	·070	·881	·977	28·998	·150	·294	·399	·423	29·213
Jubbulpore	1,353	28·630	28·628	28·526	28·441	28·306	·218	·206	·247	28·379	28·519	28·623	28·639	28·447
Nagpore	1,025	·945	·906	·821	·735	·629	·546	·551	·570	·678	·799	·913	·931	28·752
Jaffna	9	29·948	29·935	29·902	29·817	29·776	29·738	29·774	29·773	29·808	29·826	29·844	29·896	29·836
Trincomalee	175	·769	·774	·743	·657	·613	·575	·604	·601	·635	·647	·672	·719	29·667
Colombo	42	·870	·870	·857	·790	·808	·778	·814	·813	·838	·840	·803	·840	29·827
Galle	40	·864	·859	·851	·782	·808	·771	·807	·801	·839	·831	·757	?	?

Table IV.—Barometric Monthly Means for 1872 reduced to Sea-level.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	29·905	29·900	29·898	29·823	29·849	29·812	29·848	29·851	29·880	29·872	29·798	?	?
Colombo	·913	·913	·900	·833	·851	·821	·857	·856	·881	·883	·846	29·883	29·870
Trincomalee	·949	·953	·921	·834	·789	·751	·781	·777	·811	·826	·852	·899	·845
Jaffna	·957	·944	·911	·826	·785	·747	·783	·782	·817	·835	·853	·905	·845
Port Blair	30·001	·998	·976	·888	·840	·812	·827	·825	·863	·879	·916	?	?
Madras	·021	·987	·935	·849	·729	·715	·739	·744	·789	·836	·915	·969	·852
Vizagapatam... ...	·032	·973	·892	·822	·697	·637	·629	·638	·739	·813	·943	·991	·817
Akyab	·030	·979	·907	·832	·754	·698	·694	·702	·792	·845	·925	·958	·843
False Point	·067	·985	·891	·812	·690	·571	·587	·611	·750	·838	·972	30·013	·816
Cuttack	·029	·960	·865	·786	·680	·577	·593	·621	·758	·846	·985	·012	·809
Saugor Island ...	·042	·970	·877	·788	·677	·562	·581	·603	·739	·835	·960	?	?
Chittagong	·042	·996	·902	·829	·742	·669	·664	·673	·787	·857	·941	29·980	·840
Calcutta	·045	·979	·864	·778	·672	·574	·587	·609	·744	·846	·964	·998	·805
Jessore	·041	·976	·852	·773	·676	·588	·593	·614	·741	·845	·960	·986	·804
Dacca	·044	·978	·859	·787	·700	·625	·615	·637	·755	·846	·952	·987	·815
Silchar	·046	·988	·889	·829	·740	·664	·647	·658	·774	?	?	?	?
Hazareebaugh ...	?	?	?	?	?	?	·543	·571	·716	?	·988	30·033	?
Berhampore	·053	·980	·847	·758	·654	·576	·580	·603	·741	·850	·970	30·001	·801
Monghyr	·060	·979	·840	·746	·644	·556	·564	·587	·727	·852	·981	·020	·796
Goalparah	·011	·907	·851	·759	·699	·632	·594	·656	·781	·907	·996	·017	·817
Gya	·061	·976	·835	·728	·593	·503	·527	·564	·715	·848	·982	·012	·779
Debree	·090	30·005	·867	·737	·593	?	?	?	?	?	?	?	?
Patna	·061	29·997	·846	·741	·626	·535	·526	·562	·712	·850	·981	·011	·787
Arrah	·075	30·004	·883	·738	·595	·501	·507	·540	·705	·838	·997	·035	·785
Benares	·083	·006	·878	·776	·645	·550	·552	·587	·743	·882	30·039	·040	·815
Jhansi	·035	29·976	·871	·737	·621	·510	·545	·571	·706	·833?	29·960?	·035	·783
Allahabad	·069	·988	·870	·801	·632	·525	·540	·567	·774	·846	·995	·028	·803
Lucknow	·084	30·015	·886	·764	·646	·540	·555	·564	?	?	?	·029	?
Agra	·086	29·985	·864	·737	·558	·419	·507	·546	·702	·855	·982	·024	·772
Bareilly	·087	·998	·873	·761	·633	·440	·543	·567	·724	·877	·993	·030	·794
Roorkee	·061	·995	·887	·757	·608	·495	·529	·568	·724	·871	30·034	·031	·795
Jabalpore	·037	30·037	·889	·784	·614	·534	·547	·595	·731	·897	·028	·053	·812
Nagpur	·007	29·958	·846	·751	·626	·552	·577	·599	·709	·840	29·972	29·993	·786

TABLE V.—Averages of Monthly Mean Pressures deduced from the Registers of the five years 1867-71.

	Years.	January.	February	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Year.
Port Blair	3-5	29·847	29·850	29·811	29·753	29·695	29·685	29·701	29·705	29·732	29·761	29·810	29·842	29·766
Madras	4	·994	·963	·940	·856	·768	·702	·738	·772	·776	·859	·943	30·021	·861
Akyab	4-5	·995	·929	·896	·840	·753	·689	·693	·711	·760	·845	·951	·015	·840
False Point	6	30·036	·972	·906	·812	·698	·585	·577	·626	·696	·852	·988	·054	·817
Cuttack	4-5	29·985	·897	·822	·708	·620	·549	·547	·594	·662	·821	·960	·014	·765
Saugor Island	5	30·021	·942	·879	·784	·680	·557	·547	·590	·666	·827	·976	·041	·792
Calcutta	5	·021	·945	·869	·774	·667	·552	·551	·610	·679	·840	·982	·042	·793
Chittagong	5	29·908	·851	·788	·726	·642	·537	·537	·572	·634	·755	·879	29·933	·730
Jessore	4-5	·994	·922	·850	·753	·666	·537	·534	·599	·674	·832	·967	30·026	·779
Dacca	4-5	·979	·921	·845	·777	·678	·559	·558	·596	·678	·817	·952	·010	·781
Cachar	2-3	·902	·862	·798	·730	·636	·545	·549	·596	·680	·773	·911	29·959	·735
Hazareebaugh	4-5	27·966	27·906	27·851	27·765	27·672	27·558	27·553	27·617	27·677	27·848	27·963	28·005	27·782
Berhampore	4	29·948	29·876	29·790	29·676	29·568	29·442	29·467	29·541	29·624	29·769	29·908	29·975	29·715
Patna	4-5	·849	·781	·687	·578	·476	·349	·361	·431	·511	·694	·857	·886	·622
Monghyr	3-4	·860	·775	·686	·587	·493	·367	·376	·442	·516	·686	·832	·900	·627
Darjeeling	3-5	23·344	23·322	23·311	23·326	23·273	23·228	23·224	23·261	23·322	23·391	23·424	23·409	23·320
Goalparah	3	29·603	29·522	29·442	29·380	29·286	29·206	29·195	29·247	29·328	29·426	29·567	29·621	29·402
Shillong	3	25·262	25·238	25·211	25·195	25·098	25·060	25·058	25·100	25·172	25·247	25·320	25·324	25·190
Benares	5	29·813	29·727	29·644	29·528	29·388	29·273	29·273	29·347	29·413	29·606	29·764	29·820	29·550
Jhansi	3-4	·188	·147	·028	28·927	28·795	28·662	28·667	28·753	28·837	·019	·174	·206	28·950
Lucknow	3	·694	·608	·527	29·403	29·276	29·161	29·166	29·233	29·326	·499	·656	·711	29·439
Roorkee	5	·125	·048	28·985	28·878	28·747	28·632	28·638	28·695	28·792	28·960	·104	·154	28·896
Agra	4	·509	·437	29·358	29·243	29·098	·982	·931	29·035	29·133	29·321	·477	·522	29·250
Nagpore	3	28·947	28·896	28·808	28·702	28·625	·528	·538	28·616	28·642	28·794	28·938	28·983	28·751
Jabbulpore	3	·611	·603	·525	·429	·324	·205	·206	·280	·309	·481	·622	·646	·437

Table VI.—Comparison of Barometric Means of 1871, with the averages of Table V.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair	+·040	+·034	+·051	+·023	+·032	+·014	+·012	+·006	+·017	+·004	—·008	?	?
Madras	+·023	+·016	+·009	+·013	—·018	+·016	+·005	—·018	+·007	—·019	—·038	—·037	—·003
Akyab	+·013	+·028	—·010	—·030	—·020	—·012	—·020	—·030	+·011	—·016	—·011	—·079	—·015
False Point	+·012	—·006	—·034	—·019	—·027	—·033	—·009	—·034	+·035	—·033	—·035	—·060	—·020
Cuttack	—·040	—·020	—·039	—·004	—·021	—·053	—·036	—·055	+·014	—·058	—·059	—·086	—·038
Saugor Island ...	+·015	+·022	—·008	—·002	—·009	—·001	+·028	+·007	+·067	+·002	—·022	?	?
Chittagong	+·039	+·050	+·021	+·010	+·007	+·039	+·035	+·009	+·060	+·009	—·031	—·048	+·017
Calcutta	+·005	+·015	—·024	—·014	—·013	+·004	+·018	—·020	+·046	—·013	—·037	—·063	—·008
Jessore	+·026	+·033	—·019	0	—·010	+·031	+·038	—·006	+·046	—·008	—·028	—·061	+·003
Dacca	+·038	+·020	—·022	—·026	—·014	+·030	+·021	+·005	+·041	—·007	—·036	—·060	+·001
Silchar	+·049	+·031	—·002	+·006	+·012	+·037	+·007	—·029	+·003	?	?	?	?
Shillong	—·009	—·033	—·017	—·002	+·027	+·005	—·013	—·041	—·009	—·018	—·035	—·054	—·017
Goalparah	+·003	+·033	+·015	—·013	+·023	+·039	+·014	+·024	+·064	+·088	+·030	—·005	+·026
Darjeeling	+·045	+·019	+·068	+·019	+·046	+·052	+·043	+·038	+·050	+·026	+·021	—·004	+·035
Berhampore	+·036	+·035	—·010	+·015	+·019	+·069	+·047	—·001	+·050	+·014	—·005	—·042	+·019
Monghyr	+·030	+·045	—·009	—·002	—·009	+·030	+·027	—·016	+·048	+·003	—·017	—·049	+·007
Hazareebagh	?	?	?	?	?	?	+·010	—·027	+·049	?	—·023	—·045	?
Patna	+·021	+·026	—·024	—·016	—·027	+·008	—·015	—·048	+·021	—·027	—·063	—·065	—·017
Benares	—·009	+·002	—·031	—·018	—·006	+·018	+·016	—·020	+·060	0	—·029	—·058	—·006
Jhansi	—·033	—·040	+·005	—·014	—·016	+·037	+·048	—·016	+·042	—·037	—·069	—·046	—·009
Lucknow	+·002	+·025	—·009	—·001	+·014	+·024	+·029	—·029	?	?	?	—·066	?
Agra	+·008	—·014	—·034	—·043	—·030	—·013	+·047	—·023	+·036	—·010	—·048	—·062	—·015
Roorkee	—·002	+·016	—·011	—·006	—·008	+·001	+·017	—·002	+·050	+·013	+·012		?
Jubbulpore	+·019	+·025	+·001	+·012	—·018	+·013	0	—·033	+·070	+·038	+·001	—·007	+·010
Nagpore	—·002	+·010	+·013	+·033	+·004	+·018	+·013	—·046	+·036	+·005	—·026	—·052	+·001

Having described the normal distribution of atmospheric pressure in Northern India, and the changes it undergoes at different seasons, in the reports for 1870 and 1871, as well as in a special report lately submitted to Government, I shall restrict my present remarks to its peculiar features in 1873.

In the first two months of the year the pressure was abnormally high in Eastern Bengal and over the Gangetic delta, and in the lower part of the Gangetic valley as far westward as Patna. But at Cuttack it was much below the average; and such was also the case apparently at Jhansi. In the North-West Provinces generally, with this exception, and in Central India, the pressure was about what is usual in January, and a little above the usual amount in February.

In March the pressure was generally below the average; most so in Orissa and the upper part of the Gangetic valley. At Chittagong, Goalparah, and Darjeeling, however, it remained unusually high; while over the delta it was much below the average.

In April and May there appears to have been a lower pressure than usual at coast stations around the northern part of the Bay, probably therefore over that part of the Bay itself. In May this was the case also at Madras, and a severe cyclone passed over the Presidency town on the 2nd of that month, causing great loss to the shipping in the roads; but at Port Blair it was unusually high, and had been so since the beginning of 1871. The pressure remained below the average in Orissa, and at Agra it was abnormally low from February to June; most so in the month of April. At Nagpore it was above the average from February to July, and at Darjeeling and Goalparah it was unusually high throughout the year, except in April at Goalparah. In Eastern Bengal it was somewhat higher than usual in May.

In June and July there was a higher pressure than usual, generally in Northern India, and a lower pressure at the head of the Bay. Stormy weather was very prevalent in the latter area, and on the last days of June a cyclone was formed, which caused some loss of shipping at the Sandheads. As a further consequence of the abnormal distribution of pressure, the rains were unusually scanty in Northern India in the earlier part of the usual rainy season. In August, however, a general fall of pressure took place, and it became exceptionally low in Central India, Behar, and Orissa, and below the average in the North-Western Provinces generally. But it also remained low over the Bay of Bengal; and although towards the end of this month and the earlier part of September the monsoon rains appeared to set in with their usual copiousness, they did not last long. A rapid increase of pressure in September brought it almost everywhere above the average; and this was especially the case in Central India, Lower Bengal, and over the country to the west of the delta. A cyclone passed across the delta, in the neighbourhood of Jessore, on the 20th of the month. In the last three months of the year the pressure was below the average,

especially in December. In these months the whole of the Bay, as well as Northern India, was included in the area of abnormal depression, and in the latter part of October very stormy weather prevailed in the latitude of Madras and the Andamans. On the 26th a cyclone passed over Narcondam and the Cocos Islands, levelling the forest which covered the former island (which appears to be an extinct volcano), so that a party who visited the island in March of the present year, 1873, found it impracticable to ascend the cone. I shall endeavour in the sequel to trace out the connection between these abnormalities of pressure and those of temperature and other elements.

The following is the barometric table for Port Blair in 1871, which was omitted in the report for that year.

Barometric Mean Monthly Pressures for 1871.

PORT BLAIR.

	Mean.	10h.	16h.	Range.
January	29·838	29·885	29·791	·114
February	29·863	29·918	29·809	·109
March	.....	.....	.....	.....
April	.....	.....	....	.....
May	.....	.....	.....	.....
June	29·748	29·786	29·711	·075
July	29·741	29·776	29·706	·070
August	29·759	29·802	29·717	·085
September	29·761	29·807	29·715	·092
October	29·790	29·839	29·741	·098
November	29·846	29·895	29·797	·098
December	29·874	29·918	29·831	·087

Temperature of Air.

During the past year the temperature of the air has been observed under the conditions described in the report for 1869, with the exception that the thermometers at Akyab, which up to the 16th May 1872 had been suspended in the Telegraph Office, were removed and placed under a thatched shed, as at most other stations. Darjeeling and False Point are now the only stations at which the instruments are suspended inside a house, and at the former a shed is being erected, to which they will shortly be removed.

The precautions taken to correct the errors of the instruments have been detailed in the reports for 1871 and previous years. All corrections thus determined have been applied in the tables that follow.

The mean of the four periods of observation is adopted as the mean temperature of the day of all stations at which six-hourly readings have been registered, and in cases in which certain sets of observations are wanting in some months, a correction obtained from the registers of previous years has been applied to the remaining observations, in order to obtain a true mean. At Port Blair the mean of the minimum and 16h. temperatures is so taken, and at Madras, from which the 10h. and 16h. observations only are received, the corrections determined by M. Dove have been applied to these readings. Means obtained by the former method are indicated by an (*) ; those by the latter method by a (†).

Table VIII. gives the mean monthly temperatures of a number of stations in Ceylon, Central India, and the North-West Provinces ; and Table IX. the same, together with those of Table VII. reduced to their sea-level values. In previous reports I have assumed a temperature decrement of 1° Fahr. for each 350 feet of elevation. This is very nearly the true mean of the whole year for stations at considerable elevations, though the figures vary greatly in different months, especially in the dry climate of the North-West Provinces. But in the case of stations on the elevated plains and low plateaux of the peninsular, the temperature decrement for increase of elevation is on an average much less than 1° Fahr. for 350 feet. A comparison of Hazareebaugh with Berhampore shows that in May there is a difference of only 0·4° between the two stations, the one being at an elevation of 2,014 feet, the other at 65 feet only ; while in October the difference of their mean temperatures amounts to 7·2°. On the mean of the whole year, Hazareebagh is 4·3° cooler than Berhampore, which for a difference of 1·949 feet gives a mean of 1° Fahr. for 453 feet. In constructing Table IX., I have added 1° Fahr. for each 450 feet, and have omitted the more elevated stations.

In Table X. the mean temperatures of several stations are given, as deducted from the observations of the last four years.

Table XI. gives the differences between the monthly mean temperatures of 1871 and the corresponding values of the preceding table.

Table VII.—Maximum, Minimum, and Mean Monthly Temperatures for 1872.

PORT BLAIR.

	Mean.	4h.	10h	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	*79·7	...	83·6	84·4	...	86·0	10·9	75·1	30th & 31st	88·0	18·0	7th & 8th	70·0
February	*79·8	...	81·9	85·9	...	86·5	12·8	73·7	5th & 6th	89·0	20·0	11th	69·0
March ...	*80·8	...	84·8	86·7	...	88·6	13·6	75·0	31st	91·0	21·0	17th	70·0
April ...	*84·3	...	89·4	89·2	...	92 2	12·8	79·4	16th—20th	95·0	19·0	1st—3rd	76·0
May ...	*81·7	...	85·9	85·3	...	87·3	9·2	78·1	12th—14th	90·0	17·0	25th	73·0
June ...	*82·4	..	85·6	85·1	...	86·2	7·5	78·7	29th	89·0	16·0	22nd	73·0
July ...	*80·0	...	83·6	83·3	..	85·1	8·3	76·8	4th & 5th	89·0	15·0	22nd	74·0
August	*79·4	...	83·5	82·4	...	84·8	8·4	76·4	1st	88·0	14·0	14th	74·0
Sept. ...	*78·9	...	82·9	82·1	...	84·4	8·6	75·8	9th	88 0	14·0	20th	74·0
October	*79 3	...	82 7	82·7	...	84·3	8·4	75·9	28th—31st	87·0	13·0	22nd	74·0
Nov. ...	*81·0	...	85·5	84 8	...	86·9	9·7	77·2	13th—15th	89·0	15·0	27th	74·0
Dec. ...	...	...	...	...	...	...	...	...	.....	...	...	.....	...

MADRAS.

	Mean.	10h.	16h.
January	† 78·1	81·6	81·3
February	† 79·3	82·9	82 9
March	† 82·8	85·8	84 9
April	† 85·0	89·3	87 6
May	† 87·5	92 3	89·0
June	† 85 9	89·6	88·1
July	† 86·2	88·0	89·6
August	† 84 9	85·0	88·5
September	† 84·3	86·1	87 4
October	† 80·6	82·9	83·5
November	† 78·5	80·4	82·7
December	† 76·7	80·1	79·1

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	77·1	73 9	77·7	80·2	76·4	80·7	7·8	72·9	9th	82·5	12·0	25th	70 5
February	79·9	77·2	80·5	82·6	79·4	83·3	6·7	76·6	28th	88·0	16·5	1st	71·5
March...	84·1	82·0	84·3	86·1	83·9	87·0	5·8	81·2	17th	90·0	15·0	4th	75 0
April ...	87·1	85·1	88·0	88·7	86·5	89·5	4·9	84·6	26th	92·0	10·0	1st	82·0
May ...	89·5	87·9	90·5	90·9	88·5	91·7	4·3	87·4	11th	105·0	21·0	22nd	84 0
June ...	86·7	85·9	87·1	87·5	86·2	88·0	2·6	85·4	3rd	92·3	14·3	28th	78·0
July ...	83·6	82·4	83·5	85·0	83·6	85·7	3·6	82·1	30th	89·0	10·0	12th	79 0
August...	84·2	83·0	84·4	85·5	84·0	85·8	2·9	82·9	3rd & 4th	89·0	8·5	17th	80·5
Sept. ...	83·9	82·9	83·9	84·9	84·0	85·2	2·6	82·6	7th	89·0	9 0	24th	80·0
October..	81·8	80·8	81·9	82·7	81·7	83·2	2·8	80·4	1st	87·2	9·6	19th	77 6
Nov. ...	79·7	77·9	80·1	81·1	79·3	81·9	4·5	77·4	9th	85·0	11·0	3rd	74·0
Dec. ...	76·3	74·3	76·7	78·2	75·9	78·6	4·9	73·7	8th	83·0	14·5	31st	68·5

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	70 8	...	69·9	77·6	69·6	78·3	16·2	62·1	25th	81·7	23·5	15th	58·2
February	71·6	64·2	73 3	79·3	69·6	80·5	18·5	62·0	29th	87·2	32·5	10th & 11th	54·7
March...	78·6	71·3	81·6	84·4	77·0	85·6	15·6	70·0	4th	90·8	27·1	7th	63·7
April ...	83·2	77·4	86·6	87·2	81·8	89·3	13·5	75·8	30th	91·8	21·2	23rd	70·6
May ...	83·2	78·9	85 9	85·8	82 3	87·9	11·9	76·0	26th	91·8	23·2	8th	68·6
June ...	82·4	80·1	82·9	84·5	82·1	86·9	9·7	77·2	15th	90·8	17·2	6th	73·6
July ...	81·0	78·7	82·8	82·1	80·2	85·5	9·6	75·9	12th—14th	88·8	15·2	28th	73·6
August	80·8	78·9	82·0	82·3	79·9	85·1	9 2	75·9	28th	88·8	15·2	12th	73·6
Sept. ...	81 9	78·4	84·4	84·2	80·5	87·3	11·4	75·9	17th	92·8	21·2	5th	71·6
October	81·2	...	84·3	84·8	79·1	87·9	13·0	74·9	22nd	91·3	19·7	31st	71·6
Nov. ...	77·7	71·8	81·6	83·5	74·4	86·5	17·3	69·2	12th	89·8	27·2	24th & 25th	62·6
Dec. ...	72·3	...	76·7	78·4	67·8	82·5	19·8	62·7	2nd	87·3	30·6	29th—31st	56·7

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	71·5	65·9	73·2	75·9	71·2
February	75·7	70·9	77·4	79 2	75·5
March	81·7	78·9	82·9	83·4	81 6
April	84 9	83·2	85·8	86·0	84·7
May	87·4	85·7	88 4	88·5	86·9
June	86·4	85·1	86·9	87·4	86·1
July	84·2	82·7	84·7	85·6	84·0
August	84·7	83·2	85·9	85·7	84·2
September	85·0	83·5	85·7	86·0	84·7
October	83·1	81·6	84·0	84·2	82·5
November	77·9	74·4	78·8	80·4	77·9
December	71·4	67·1	72·6	75·1	70·9

CUTTACK.

	Mean.	4h.	10h.	16h	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	72·7	62·9	75·6	83·8	68·3	87·9	28·2	59·7	23rd	91 0	40·0	11th	51·0
Feb. ...	76·4	67·5	78·2	87·4	72·4	91·0	26·3	64·7	28th	100·0	45·2	9th	54·8
March...	83·9	74·9	85·0	96·3	79·5	100 9	28·8	72·1	27th	107·0	42·5	3rd	64·5
April ...	86·8	78·5	91·1	94·7	82·8	104·4	28·7	75·7	25th	109·0	36·5	18th	72·5
May ...	90·3	83·1	93·4	99·1	85·7	112·6	33·8	78·8	29th	118·0	45·5	23rd & 24th	72 5
June ...	86·0	...	88·7	90·0	83·3	111·2	32·3	78·9	1st	116·0	41·5	27th	74·5
July ...	82·8	...	85·2	84·6	81·9	...	...	76·4	.....	...	...	2nd & 3rd	73 5
Aug. ...	82·5	...	84·9	84·9	81·1	...	...	77·0	.....	...	...	16th & 17th	74·5
Sept. ...	82·7	79·4	85·3	85·6	80·5	...	...	76·6	.....	...	...	13th	74·0
October	80·2	75·8	83·4	84·0	77·5	88·8	16·0	72·8	1st	95·0	27·0	31st	68·0
Nov. ...	75·3	67·5	79·5	82·5	71·7	86·4	21·2	65·2	14th & 15th	91·0	32·4	28th	58·6
Dec. ...	71·6	63·7	75·1	79·7	67·7	83·9	21·0	62·3	3rd	90·5	38·2	28th	52·3

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max. Day.	Highest Max. ⊖	Monthly Range.	Lowest Min. Day.	Lowest Min. ⊖
January	69·2	62·8	71·2	76·6	66·2	77·6	17·1	60·5	29th	81·4	32·6	10th	48·8
February	74·4	69·4	76·7	80 0	71 6	80·8	14·5	66·3	7th	87·9	34·1	9th	53·8
March...	82·6	77·7	86·2	87 5	79 0	88·9	12 7	76·2	23rd	94·2	25·8	3rd	68·4
April ...	85·4	81·4	89·0	88·3	82·9	90·9	11·5	79·4	2nd	93 9	24·0	18th	69·9
May ...	86 8	83·7	89·8	89·7	83·9	91·6	10·5	81·1	3rd	94·7	21·5	21st	73·2
June ...	85·5	83·3	87·6	87·4	83·6	89·0	8·0	81·0	3rd	92·0	15·4	29th	76·6
July ...	83·4	81·2	85·1	85·1	82·3	86·9	7·7	79·2	14th	90·9	14·6	20th	76·3
August	84·0	81·6	85·5	86 0	83 0	87·3	10·0	77·3	9th	92·0	15·1	15th	76·9
Sept. ...	83·6	80·6	85·2	86·0	82 5	87·1	8·4	78 7	11th	91·5	16·0	12th	75·5
October	80·4	76·5	83·8	83·3	78·0	85·2	10·5	74·7	6th	88·6	18·7	23rd	69 9
Nov. ...	75·4	69·7	78·9	81·2	71·9	81·8	15·1	66 7	14th	85·9	26·8	28th	59·1
Dec. ...	Untrustworthy.												

CHITTAGONG.

	Mean.	4h.	10h.	16h	22h.	Mean of Max	Mean Daily Range.	Mean of Min.	Highest Max. Day.	Highest Max. ⊖	Monthly Range.	Lowest Min. Day.	Lowest Min. ⊖
January	68·0	59·7	71·3	75 6	65·5	79·6	25·0	54·6	28th	83·2	32 9	10th	50·3
February	70·6	61·6	74·3	78·5	67·9	82 6	24·7	57·9	28th & 29th	87·4	37·4	10th	50·0
March...	79·4	71·2	83·2	85·7	77·3	90·0	20·5	69·5	25th	94·7	32·4	6th	62·3
April ...	82·7	75·1	87·7	87·7	80·3	92·9	20·5	72·4	10th	97·2	38·4	24th	58·8
May ...	82·3	77·3	86·7	85·3	80·0	90·6	14·8	75·8	24th	93·8	25·0	9th	68·8
June ...	83 0	78·7	85·8	86·2	81·3	89·4	12·3	77·1	2nd	93·2	18·4	29th	74·8
July ...	80·8	77·9	82·5	83·2	79·6	86·6	10·6	76·0	23rd	94·2	20·9	19th	73·3
August	80·9	77·5	83·2	83·2	79·7	87·5	11·3	76·2	23rd	90·9	16·9	26th	74 0
Sept. ...	81·2	77·4	83·2	84·6	79·6	87·9	12·1	75·8	11th	95·7	23 0	4th	72·7
October	80·2	75·7	82·9	84·3	78·1	87·6	13·5	74·1	7th	92·0	21·1	31st	70·9
Nov. ...	76·2	69·2	79·4	82·3	73·7	85·8	19·3	66·5	12th	90·0	28·6	25th	61·4
Dec. ...	70·2	64·0	72·4	77·1	67·2	80·8	21·4	59·4	1st	87·2	36·0	29th	59·2

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	69·2	62·8	70·3	76·3	67·2	77·7	16·3	61·4	25th	82·3	27·7	11th	54·6
February	72·9	66·6	73·8	80·3	70·8	80·7	15·4	65·3	29th	89·7	31·7	9th & 10th	58·0
March...	83·1	76·4	83·6	92·4	79·9	92·7	17·3	75·4	27th	98·5	29·0	7th	69·5
April ...	85·9	79·7	88·3	93·1	82·3	94·8	16·5	78·3	10th	100·5	29·0	1st	71·5
May ...	87·0	812	89·5	93·9	83·5	95·7	16·0	79·7	27th	101·3	26·5	10th	74·8
June ...	85·4	81·7	87·9	89·5	82·5	91·1	11·0	80·1	1st	98·2	21·9	5th	76·3
July ...	83·3	80·3	85·2	86·1	81·8	88·0	8·1	79·9	14th	92·6	14·6	2nd	78·0
August	83·1	80·6	84·6	85·2	81·9	88·0	7·9	80 1	28th	92·0	14·5	15th	77·5
Sept. ...	83·2	80·1	85·1	85·8	81·9	88·2	8·8	79·4	15th	92·6	15·9	5th	76·7
October..	81·6	77·9	83·9	84·7	79·8	86·8	9·7	77·1	6th	91·3	19·8	25th	71·5
Nov. ...	76·6	71·1	79·1	81·9	74·5	83·7	13·4	70·3	6th	88·0	24·8	27th	63·2
Dec. ...	70·3	64·4	71·8	76·7	68·2	78·2	14·8	63·4	3rd	83·7	26·3	31st	57·4

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	66·1	55·6	72·5	75·6	60·9	79·1	25·1	54·0	25th	84·2	38·7	10th	45·5
February	70·1	5 99	75·2	80·1	65·1	83·0	25·1	57·9	29th	92·4	43·4	9th	49·0
March...	83·5	74·1	87·0	94·9	77·8	96·8	25·3	71·5	27th	102·1	40·3	4th	61·8
April ...	85·0	76·5	90·5	92·8	80·1	98·1	24·1	74·0	21st	106·0	38·3	5th	67·7
May ...	84·1	78·3	88·3	89·7	80·1	94·2	18·1	76·1	29th	99·0	30·1	8th	68·9
June ...	84·4	80·2	88·4	87·2	81·8	91·9	12·8	79·1	4th	97·2	22·9	6th	74·3
July ...	82·8	79·3	86·0	85·1	80·8	89·2	10·7	78·5	14th	95·0	18·9	2nd	76·1
August	83·2	79·6	86·7	85·3	81·0	89·8	11·1	78·7	27th	92·8	16·8	14th	76·0
Sept. ..	82·6	78·9	86·6	84·8	80·2	89·3	11·6	77·7	13th	96·0	21·1	5th	74·9
October	80·8	75·9	84·6	84·8	78·0	88·3	13·5	74·8	3rd	92·8	21·8	22nd—25th	71·0
Nov. ...	74·9	66·7	80·7	82·1	70·1	85·7	20·4	65·3	6th	90·0	32·8	26th	57·2
Dec. ..	68·0	58·5	74·2	76·6	62·7	80·0	22·9	57·1	2nd	83·0	34·0	29th	49·0

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max. Day.	Highest Max. ⊖	Monthly Range.	Lowest Min. Day.	Lowest Min. ⊖
January	66·7	58·2	70·7	75·0	63·1	78·8	24·4	54·4	31st	82·1	36·6	10th	45 5
February	69·6	60·5	73·6	78·7	65·8	81·0	22·7	58·3	28th	87·4	36·8	10th	50·6
March...	81·8	73·1	84·5	91·9	77·6	92·3	20·7	71·6	13th	97·8	33·5	6th	64·3
April ...	82·4	74·5	87·7	89·6	78·0	94·3	21·5	72·8	10th	103·8	39·5	5th	64·3
May ...	82·9	77·9	85·5	87·6	80·5	89·5	13·6	75·9	28th	96·4	28·8	1st	67·6
June ...	84·1	80·4	87·5	86·6	82·0	90·3	11·5	78·8	8th	94·7	18·9	29th	75·8
July ...	83·0	80·4	84·8	85·0	81·7	88·0	9·2	78·8	8th	97·4	21·8	2nd	75·6
August	83 5	80·8	85·2	85·9	82·2	88·1	9·0	79·1	23rd	92·7	16·2	30th	76·5
Sept. ...	83·0	79·8	85·7	85·1	81·4	886	10·1	78·5	15th	94·0	19·0	21st	75·0
October	81·1	76·6	84·6	84·4	78·6	87·8	12·4	75·4	4th	92·3	20·2	26th	72·1
Nov. ...	75·7	68·3	80·8	81·9	71·9	84·6	18·1	66·5	6th	90·6	30·3	28th	60·3
Dec. ...	69·0	60·6	74·0	76·4	64·9	79 6	21·0	58·6	2nd	83·0	30·7	27th	52·3

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max. Day.	Highest Max. ⊖	Monthly Range.	Lowest Min. Day.	Lowest Min. ⊖
January	64·1	54·2	66·0	75·8	60·4	78·2	26·3	51·9	31st	82·0	38·0	11th	44·0
February	65·7	56·0	67·1	77·7	61·9	79·3	256	53·7	29th	86·0	39·0	11th	47·0
March...	75·8	66·7	77·5	86·4	72·5	88·7	24·1	64·6	25th	95·0	38·0	7th	57·0
April ...	77·3	70·0	79·8	84·7	74·6	87·4	18·5	68·9	16th	96·0	33·0	5th	63·0
May ...	79·4	74·1	80·4	85·1	78·1	87·8	15·0	72·8	27th	95·0	28·0	9th	67·0
June ...	82·3	77·7	83·5	87·7	80·2	90·6	14·2	76·4	26th	99·0	26·0	7th—9th	73·0
July ...	81·3	77·1	82·0	86·1	80·1	88·7	12·5	76·2	1st	97·5	24·5	2nd	73·0
August	82·4	78·2	83·3	87·4	80·6	89·7	12·5	77·2	23rd	96·0	21·0	29th & 30th	75·0
Sept. ...	80·6	76·8	81·4	84·9	79·3	87·8	12·0	75·8	11th	99·0	25·0	23rd	74·0
October	79·5	75·3	80·5	84·9	77·4	87·3	14·1	73·2	22nd	92·0	22·0	25th	70·0
Nov. ...	73·7	65·3	75·9	83·1	70·6	85·4	21·7	63·7	5th	90·0	33·0	30th	57·0
Dec. ...	66·8	58·1	68·0	77·7	63·4	80·1	23·8	56·3	1st & 2nd	84·0	37·0	30th	47·0

HAZAREEBAGH.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	61·4	53·5	63·3	70·8	58·1	74·1	23·5	50·6	23rd	81·0	40·0	10th	41·0
February	63·9	55·9	66·6	72·8	60·5	76·8	23·8	53·0	29th	91·0	47·0	9th & 10th	44·0
March ...	77·1	66·3	82·0	86·0	74·0	91·2	26·1	65·1	29th	99·0	44·0	5th	55·0
April ...	82 9	75·1	86·2	90·3	79·8	95·5	24·6	70·9	25th & 26th	102·0	41·0	2nd	61·0
May ...	87·5	78·3	91·5	96·1	84·3	100·5	25·9	74·6	7th	107·0	42·0	11th	65·0
June ...	84·1	78·0	87·0	89·7	81·7	95·7	19·7	76·0	3rd—5th	107·0	36·0	12th	71·0
July ...	77·6	74·7	78·0	80·5	77·4	87·8	15·9	71·9	11th	97·0	30·0	10th	67·0
August	77·9	74·6	79·0	80·3	77·8	84·5	11·7	72·8	10th & 11th	87·5	16·5	2nd—5th	71·0
Sept. ...	77·9	73·6	78·5	80·1	79·7	84·5	12·9	71·6	30th	86·5	17·0	18th & 19th	69·5
October	Untrustworthy.												
Nov. ...	67·9	61·7	71·5	73·9	64·5	77·7	18·7	59·0	2nd	84 8	35·3	27th	49·5
Dec. ...	62·7	55·4	66·3	70·5	58·5	73·0	20·1	52·9	2nd	80·5	33·7	25th	46·8

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	65·6	56·4	68·4	74·4	63·1	77·6	21·7	55·9.	23rd	85·0	37·5	10th	47·5
February	67·9	57·5	72·2	78·6	63·5	81·5	23·8	57·7	29th	92·5	25·0	5th	67·5
March...	81·2	68·5	87·1	93·9	75·4	95·4	29·2	66·2	29th	103·5	43·5	9th	60·0
April ..	85·6	75·3	89·4	96·7	80·8	100·4	27·1	73·3	29th	109·0	44·0	5th	65·0
May ...	87·1	79·3	91·0	95·1	82·8	100·1	22·9	77·2	30th	107·5	36·5	20th	71·0
June ...	86·0	81·2	89·2	90·2	83·3	95·4	15·9	79·5	6th	106·5	31·5	13th & 14th	75·0
July ...	84·2	80·3	87·1	87·5	82·0	91·6	12·6	79·0	19th	103·5	27·0	5th	76·5
August	84·5	80·7	87·0	87·7	82·5	92·1	12·4	79·7	18th	95·5	18·5	2nd	77·0
Sept. ...	83·9	79·9	87·0	86·8	81·7	91·3	12·6	78·7	10th	96·0	20·0	24th	76·0
October	81·2	76·1	84·7	86·1	78·0	89·2	14·6	74·6	7th	95·5	26·0	22nd	69·5
Nov. ...	75·4	69·3	79·1	82·7	70·6	84·8	18·8	66·0	1st	89·5	32·5	28th	57·0
Dec. ...	68·2	60·1	72·4	76·6	63·5	78·8	20·7	58·1	2nd	84·0	32·5	28th—30th	51·5

GYA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	63·8	55·8	67·0	72·6	59·8	74·8	21·9	52 9	23rd	83·2	40·2	11th	43·0
February	67·5	57·9	72·1	76·7	63·4	78 6	23·1	55·5	29th	93·2	44·2	16th	49·0
March...	83·1	72·1	88·4	93·4	78·5	95·6	27·2	68·4	29th & 30th	103·2	41·2	18th	62·0
April ...	88·7	77·6	92·9	99·4	84·7	101·0	25·9	75·1	29th	108·2	42·7	3rd	65·5
May ...	93·3	82·8	97·2	103·7	89·6	105·7	25·7	80·0	31st	112·2	41·2	21st	71·0
June ...	92·4	84·6	95·5	100·1	89·5	103·5	21·3	82·2	1st	114·2	37·2	19th	77·0
July ...	84·3	80·2	86·1	89·1	81·9	91·2	13·1	78·1	15th	97·5	22·5	29th	75·0
August	83·5	80·2	85·7	85·9	82·3	90·1	11·5	78·6	10th	94·2	18·2	27th	76·0
Sept. ...	83·3	79·0	85·8	87·0	81·3	90·4	13·3	77·1	9th	94·2	19·2	27th	75·0
October	79·9	73·0	83·4	86·1	77·0	88·4	18·0	70·4	6th & 7th	93·7	31·7	23rd	62·0
Nov. ...	72·2	62·4	76·7	81·2	68·5	83·1	23·7	59·4	7th	87 2	38·2	28th	49·0
Dec. ...	66·1	56·2	69·4	76·4	62·5	77·5	24·5	53·0	1st	85·2	40·2	27th	45·0

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	61·6	55·1	64·6	67·5	59·1	68·7	17·3	51·4	1st	76·3	33·0	11th	43·3
February	64·5	56·0	68·5	72·2	61·2	73·6	21·4	52·2	28th & 29th	83·6	37·6	10th	46·0
March...	79·4	67·3	85·6	91·5	73·1	92·1	29·8	62·3	29th	100·6	46·5	8th	54·1
April ...	86·8	76·0	90·5	98·1	82·5	98·7	26·1	72·6	30th	106·3	41·2	4th	65·1
May ...	89·5	79·7	92·1	99·7	86·4	101·5	24·9	76·6	27th	111·2	43·1	17th	68·1
June ...	88·4	80·9	91·0	95·8	85·9	98·9	18·4	80·5	1st	108·3	32·2	17th	76·1
July ...	84·7	79·9	37 2	89·0	82·9	91·0	11·7	79·3	14th	96·0	21·8	16th	74·2
August	84·8	80·8	86·7	88·5	83·1	90·1	9·8	80·3	11th	93·7	17·5	1st	76·2
Sept. ...	83·8	79·5	86·2	87·5	82·0	88·9	10·5	78·4	14th	93·6	20·4	7th & 8th	73·2
October	79·8	72·9	84·3	85·8	76·4	87·1	15·6	71·5	19th	91·7	28·6	31st	63·1
Nov. ...	71·9	61·9	78·2	80·9	66·8	82·5	22·6	59·9	9th	86·3	37·5	28th	48·8
Dec. ...	64·7	55·1	69·9	73·3	60·5	75·9	24·5	51·4	3rd	82·2	37·1	26th	45·1

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	62·4	55·8	63·8	70·2	59·7	73·9	20·6	53·3	26th—29th	78·0	32·0	10th & 11th	46·0
February	66·3	58·8	68·0	75·4	63·1	77·5	22·4	55·1	29th	87·0	38·0	16th	49·0
March...	79·9	69·8	82·2	91·3	76·2	92·0	27·7	64·3	29th & 30th	100·0	43·0	8th	57·0
April ...	85·6	75·4	88·5	96·4	82·2	98·0	26·4	71·6	29th & 30th	106·0	46·0	2nd	60·0
May ...	88·3	79·5	90·4	97·5	85·9	98·7	21·4	77·3	27th	107·0	39·0	11th	68·0
June ...	87·9	81·9	90·2	93·7	85·9	97·0	17·3	79·7	1st	105·0	29·0	29th	76·0
July ...	83·8	79·8	85·9	87·0	82·4	90·1	12·3	77·8	4th	97·0	23·0	4th & 5th	74·0
August	84·2	80·7	85·2	88·0	83·1	90·5	11·8	78·7	6th	96·0	21·0	12th	75·0
Sept. ...	83·5	80·1	85·0	86·9	82·1	89·4	11·6	77·8	29th	93·0	18·0	6th	75·0
Oct. ...	80·1	74·4	82·7	86·2	77·3	88·0	14·7	73·3	6th	93·0	27·9	26th	65·1
Nov. ...	73·1	66·0	75·6	81·0	69·6	82·4	18·2	64·2	4th	86·8	30·3	28th	56·5
Dec. ...	65·6	57·9	67·7	74·2	62·5	75·1	18·7	56·4	2nd	80·8	29·8	29th	51·0

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	42·5	37·2	47·2	46·1	39·5	51·7	17·6	34·1	21st	60·0	31·0	9th	29·0
February	42·2	36·8	46·7	45·9	39·4	50·5	16·5	34·0	28th	61·0	32·0	16th	29·0
March...	53·5	48·1	58·3	57·3	50·6	61·5	16·2	45·3	17th	70·0	34·8	1st	35·2
April ...	56·1	51·2	59·6	59·7	53·7	64·8	16·6	48·2	29th	71·0	29·8	2nd	41·2
May ...	59·9	55·1	63·0	64·0	57·5	68·3	14·8	53·5	28th	75·0	25·6	17th	49·1
June ...	61·9	58·9	64·2	64·2	60·3	68·0	10·1	57·9	10th	74·0	18·8	16th	55·2
July ...	63·0	59·4	66·4	65·2	60·9	69·9	11·4	58·5	20th	75·0	18·8	21st	56·2
August	63·7	60·0	66·1	66·9	61·7	69·8	11·1	58·7	5th & 6th	74·0	16·8	30th & 31st	57·2
Sept. ...	61·5	57·4	65·0	64·6	59·2	68·6	12·7	55·9	11th & 12th	76·0	21·8	24th	54·2
Oct. ...	57·0	50·5	62·0	61·8	53·7	65·9	16·7	49·2	29th	70·0	25·0	26th—28th	45·0
Nov. ...	51·8	44·5	58·8	56·2	47·8	63·1	20·2	42·9	6th	69·0	32·0	30th	37·0
Dec. ...	47·2	38·9	55·3	51·6	42·9	60·4	22·7	37·7	11th	67·0	33·0	29th—31st	34·0

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	63·7	54·9	65·8	70·7	63·3	73·3	22·4	50·9	21st	79·1	36·1	10th	43·0
February	66·0	57·3	69·3	72·5	64·8	77·6	24·5	53·1	28th	84·2	36·2	17th	48·0
March...	76·1	64·3	81·2	84·1	74·7	88·7	26·7	62·0	17th	97·0	43·9	8th	53·4
April ...	77·7	69·6	81·6	83·5	76·1	89·0	22·7	66·3	17th	96·9	37·9	2nd	59·0
May ...	78·0	72·2	79·7	83·0	77·0	85·9	16·7	69·2	30th	93·3	29·3	17th	64·0
June ...	79·4	74·8	82·1	83·0	77·8	87·6	15·3	72·3	7th	94·0	25·7	5th	68·3
July ...	81·5	76·7	84·0	85·0	80·4	88·3	14·2	74·1	19th	93·0	21·0	25th	72·0
August	82·1	77·2	84·0	86·0	81·1	89·4	14·3	75·1	29th	93·5	21·0	5th	72·5
Sept ...	79·8	75·9	81·2	83·1	78·9	85·3	11·7	73·6	14th	92·0	23·5	22nd	68·5
Oct. ...	76·4	70·9	78·1	82·0	74·6	84·0	15·0	69·0	5th	90·6	26·6	26th	64·0
Nov. ...	71·8	64·8	73·7	77·9	71·0	80·1	17·7	62·4	1st	86·0	29·4	30th	56·6
Dec. ...	67·5	58·8	70·6	73·8	66·9	76·0	20·3	55·7	7th	78·7	30·6	31st	48·1

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	49·8	41·9	55·0	55·4	46·8	60·3	19·3	41·0	31st	68·0	35·0	21st	33·0
February	51·4	44·3	55·9	56·8	48·5	61·4	18·7	42·7	28th	67·0	32·0	9th	35·0
March...	63·1	56·4	68·4	68·0	59·8	73·3	18·2	55·1	17th	80·5	32·0	9th	48·5
April ...	66·5	60·7	70·7	70·7	63·8	75·8	16·2	59·6	10th	84·0	31·0	2nd	53·0
May ...	67·4	62·8	71·0	70·9	65·1	75·2	14·0	61·2	29th	80·0	21·5	11th	58·5
June ...	69·5	65·3	72·2	72·7	67·8	75·9	11·0	64·9	27th	82·0	20·5	10th & 11th	61·5
July ...	68·8	65·4	70·9	71·5	67·5	75·4	10·1	65·3	15th	80·5	17·0	17th & 18th	63·5
August	70·1	66·7	72·8	72·9	68·0	76·2	10·5	65·7	23rd	80·0	17·5	27th & 28th	62·5
Sept. ...	67·2	64·0	69·6	69·5	65·9	73·4	10·5	62·9	11th	82·5	24·0	18th	58·5
Oct. ...	63·1	...	67·0	66·9	61·3	70·9	15·1	55·8	21st	74·0	20·0	26th	54·0
Nov. ...	58·7	...	63·9	63·4	55·0	66·0	16·1	49·9	11th	71·0	27·0	27th	44·0
Dec. ...	52·3	45·0	57·9	57·4	48·9	58·6	17·1	41·5	1st	63·5	31·0	28th	32·5

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	61·1	52·4	64·1	71·0	57·0	72·8	...	...	23rd	82·5	...	...	...
February	64·9	54·5	69·9	76·8	58·6	78·2	...	...	29th	90·0	...	...	...
March...	79·7	65·8	86·2	94·4	72·3	94·7	32·5	62·2	31st	103·0	49·0	8th	54·0
April ...	85·8	72·0	93·1	98·7	79·3	99·3	30·0	69·3	26th	107·5	46·5	3rd	61·0
May ...	92·0	79·5	97·6	1039	86·8	105·0	28·0	77·0	6th	111·0	44·0	2nd	67·0
June ...	90·7	84·2	93·5	97·2	88·0	101·2	19·4	81·8	4th	114·0	40·5	10th	73·5
July ...	84·4	80·2	86·5	88·7	82·2	91·1	12·8	78·3	16th	95·5	25·0	4th	70·5
August	84·0	80·7	86·5	87·1	81·7	89·8	11·0	78·8	25th	94·5	19·5	29th	75·0
Sept. ...	83·4	78·5	86 7	88·3	80·2	90·3	12·3	78·0	18th	95·0	24·0	7th	71·0
Oct. ...	78·6	68·0	85·6	89·8	71·3	90·8	24·0	66·8?	21st	95·0	42·0	22nd	53·0
Nov. ...	69·5	56·6	76·7	83·3	61·5	84·9	31·6	53·3	3rd	91 0	48·5	11th	42·5
Dec. ...	63·1	51·0	68·4	76·7	56·1	78·0	29·8	48·2	21st	83·0	41·0	10th	42·0

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Mean of Max.	Mean Daily Range.	Mean of Min.	Highest Max.		Monthly Range.	Lowest Min.	
									Day.	⊖		Day.	⊖
January	56·7	50·4	57·8	64·4	54·4	65·5	18·0	47·5	1st	76·2	37·5	8th	38·7
February	59·3	49·8	61·3	70·1	56·2	71·9	25·5	46·4	26th	81·9	43·2	15th	38·7
March...	72·9	59·9	78·1	85·9	67·9	87·6	30·5	57 1	25th	96·2	45·5	1st & 2nd	50·7
April...	80·5	67·5	86·7	92·2	75·8	94·1	28·3	65·8	25th	102·6	44·9	2nd	57·7
May ...	87·6	74·8	92·4	99·7	83·7	102·6	30·1	72·5	7th	112·1	48·4	2nd	63·7
June ...	89·5	80·9	91·4	98·5	87·3	100·2	21·4	78·8	2nd	112·1	42·4	14th	69·7
July ...	83·0	78 3	85·1	87·4	81·1	90·8	14·1	76·7	12th	96·2	22·9	8th	73·3
August	82·9	78·3	83·8	87·9	81·7	89·7	13·7	76·0	25th	94·2	23·5	15th	70 7
Sept. ...	81·4	75·4	83·8	87·9	78·3	90·4	17·5	72·9	12th	95·2	30·5	25th	64·7
Oct. ...	74·8	63·1	80·4	86·9	68·8	89·5	29·5	60·0	17th	92·2	41·5	26th & 27th	50·7
Nov. ...	66·3	53·3	73·7	78·9	59·3	83·5	33·0	50·5	24th	89·2	48·5	26th & 27th	40·7
Dec. ...	58·9	47·9	62·9	70·6	54·2	74·8	30·0	44·8	1st	80·7	41 0	25th	39·7

Table VIII.—Monthly Mean Temperatures of additional Stations in the N-W. and Central Provinces, and Ceylon, in 1872.

	January.	Feb.	March.	April.	May.	June.	July.	Augt.	Sept.	Oct.	Nov.	Dec.
Jhansi	62·7	69·	83·	89·	96·2	95·	83·5	81·5	84·	78·2	75·7	67·7
Allahabad	*61·5	*64·5	*78·	*83·	*90·	*89·5	*83·5	*81·5	82·2	77·7	69·5	63·
Lucknow	59·	65·8	79·5	85·8	93·	91·	86·	85·	85·	79·	70·7	62·2
Agra	59·2	64·	79·8	86·5	93·8	95·2	85·7	82·2	81·7	79·	70·7	64·7
Bareilly	56·2	60·8	75·5	83·	89·2	88·5	83·5	83·5	81·5	76·	67·7	60·2
Sagar	63·8	63·2	77·6	83·1	93·6	88·9	79·8	77·8	78·8	72·1	64·3	61·7
Jabalpúr	68·9	73·2	84·6	86·9	94·3	88·7	79·	78·2	78·6	75·9	69·7	68·7
Nágpúr	69·1	69·9	82·5	87·5	93·9	90·7	78·9	77·9	79·6	74·5	68·4	66·6
Hoshungabad	69·9	73·2	84·4	87·9	94·9	88·7	79·5	78·4	77·7	74·4	67·2	66·3
Chánda	69·6	72·9	83·5	86·5	95·4	86·4	77·7	79·1	78·9	76·5	70·2	66·9
Raipúr	65·2	67·7	81·2	91·3	99·7	96·	78·6	77·	77·7	74·3	66·9	62·5
Sambalpúr	63·2	67·2	80·4	83·7	90·5	87·9	76·7	75·	76·1	74·5	69·8	65·9
Jaffna	79·3	82·2	83·7	85·3	84·6	84·1	83·2	82·1	82·	82·5	80·5	79·5
Trincomalee	79·5	80·3	83·3	84·8	87·7	86·6	85·9	85·1	83·4	82·5	79·6	79·5
Colombo	81·2	81·6	83·2	83·1	85·2	82·6	82·5	81·3	80·0	81·4	81·6	81·
Galle	78·5	80·3	82·4	81·6	83·	80·9	80·6	79·9	79·1	80·2	79·3	79·

Table IX.—Monthly Mean Temperatures of 1872, reduced to Sea-level.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	78·6	80·4	82·5	81·7	83·1	81·0	80·7	80·0	79·2	80·3	79·4	79·1	80·5
Colombo	81·3	81·7	83·3	83·2	85·3	82·7	82·6	81·4	80·1	81·5	81·7	81·1	82·2
Trincomalee	79·9	80 7	83·7	85·2	88·1	87·0	86·3	85·5	83·8	82·9	80·0	79·9	83·6
Jaffna	79·3	82·2	83·7	85·3	84·6	84·1	83·2	82·1	82·0	82·5	80·5	79·5	82·4
Port Blair	*80	*80·1	*81·1	*84·6	*82·0	*82·7	*80·3	*79·7	*79·2	*79·6	*81·3	*79·9	*80 9
Madras	†78·2	†79·4	†82·9	†85·1	†87·6	†86·0	†86·3	†85·0	†84·4	†80·7	†78·6	†76·8	†82 6
Vizagapatam... ...	77·2	80·0	84·2	87·2	89·6	86·8	83·7	84·3	84·0	81·9	79·8	76·4	82·9
Akyab	70·8	71·6	78·6	83·2	83·2	82·4	81·0	80·8	81·9	81·2	77·7	72·3	78·7
False Point	71·5	75·7	81·7	84·9	87·4	86·4	84·2	84·7	85·0	83·1	77·9	71·4	81·2
Cuttack	72·9	76·6	84·1	87·0	90·5	87·1	83·0	82·7	82·9	80·4	75·5	71·8	81 2
Saugor Island ...	69·2	74·4	82·6	85·4	86·8	85·5	83·4	84·0	83·6	80·4	75·4	?	?
Chittagong	68·2	70·8	79·6	82·9	82·5	83·2	81 0	81·1	81·4	80·4	76·4	70·4	78·2
Calcutta	69·2	72·9	83·1	85·9	87·0	85·4	83·3	83·1	83·2	81·6	76·6	70·3	80·1
Jessore	66·1	70·1	83·5	85·0	84·1	84·4	82·3	83·2	82·6	80·8	74·9	68·0	78·8
Dacca	66·7	69·6	81·8	82·4	82·9	84·1	83 0	83·5	83·0	81·1	75·7	69·0	78·6
Silchar	64·3	65·9	76·0	77·5	79·6	82·5	81·5	82·6	80·8	79·7	73·9	67·0	75·9
Goalparah	64·7	67·0	77·1	78·7	79·0	80·4	82·5	83·1	80·8	77·4	72·8	68·5	76·0
Berhampore	65·7	68·0	81·3	85·7	87·2	86·1	84·3	84·6	84·0	81·3	75·5	68·3	79·3
Monghyr	62·8	66·7	80·3	86·0	88·7	88·3	84·2	84·6	83·9	80·5	73·5	66·0	78·8
Hazareebaugh ...	65·7	68·2	81·4	87·2	91·8	88·4	81·9	82·2	82·2	?	72·2	67·0	?
Gya	64·6	68·3	83·9	89·5	94·1	93·2	85·1	84·3	84·1	80·7	73·0	66·9	80·6
Patna	62·0	64·9	79·8	87·2	89·9	88·8	85·1	85·2	84·2	80·2	72·3	65·1	78·7
Benares	61·7	65·5	80·3	86·4	92·6	91·3	85·0	84·6	84·0	79·2	70·1	63·7	78·7
Jhansi	64·5	70·8	84·8	90·8	98·0	96·8	85·3	83·3	85·8	80·0	77·5	69·5	82 3
Allahabad	62·1	65·1	78·6	83·6	90·6	90·1	84·1	82·1	82·8	78·3	70·1	63·6	77·6
Lucknow	59·8	66·6	80·3	86·6	93·8	91·8	86·8	85·8	85·8	79·8	71·5	63·0	79·3
Agra	60·4	65·2	81·0	87·7	95·0	96·4	86·9	83·4	82·9	80·2	71·9	65·9	79·7
Bareilly	57·5	62·1	76·8	84·3	90·5	89·8	84·8	84·8	82·8	77·3	69·0	61·5	76·8
Roorkee	58·7	61·3	74·9	82·5	89·6	91·5	85·0	84·9	83·4	76·8	68·3	60·9	76·5
Jubbulpore	*66·8	*66·2	*80·6	*86·1	*96·6	*91·9	*82·8	*80·8	*81·8	*75·1	*67·3	*64·7	*78·4
Saugor	*67·5	*71·5	*84·7	*88·0	*94·8	*92·2	*81·0	*79·3	*80·4	*78·8	*74·1	*70·2	*80·2
Nágpore	*71·2	*75·5	*86·9	*89·2	*96·6	*91·0	*81·3	*80·5	*80·9	*78·2	*72·0	*71·0	*81·2
Hoshungabad ...	*71·4	*72·2	*84·8	*89·8	*96·2	*93·0	*81·2	*80·2	*81·9	*76·8	*70·7	*68·9	*80·6
Chanda	*71·3	*74·6	*85·8	*89·3	*96·3	*90·1	*80·9	*79·8	*79·1	*75·8	*68·6	*67·7	*79·9
Raipore	*71·8	*75·1	*85·7	*88·7	*97·6	*88·6	*79·9	*81·3	*81·1	*78·7	*72·4	*69·1	*80·8
Sumbulpore	*66·2	*68·7	*82·2	*92·3	*100·7	*97·0	*79·6	*78·0	*78·7	*75·3	*67·9	*63·5	*79·2

TABLE X.—Average Monthly Temperatures deduced from the Registers of 1868-71.

	Years.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Year.
Port Blair	4	78·7	79·1	81·4	83·8	81·6	81·6	80·6	80·5	79·8	80·2	79·8	79·2	80·5
Madras	4	76·7	79·5	82·9	86·0	89·5	87·8	85·8	86·2	84·2	82·4	78·6	77·7	83·1
Akyab	2-4	70·5	74·6	78·9	83·6	84·4	82·3	81·0	81·6	82·0	81·5	77·8	72·0	79·2
False Point	4	71·2	75·2	80·1	84·0	87 1	86·3	85·3	85 1	85·2	84·1	77·4	70·9	81·0
Cuttack	4	70·2	74·4	80·1	86 0	89·0	85·8	84·0	84·0	83·2	81·5	74·6	69·6	80·2
Saugor Island	3-4	69·0	74·0	79·9	83·9	85·6	85·1	84·1	83·5	83·1	81·2	75·0	68·2	79·4
Chittagong	4	67·6	71·7	77·9	81·2	83·0	81·6	80·9	81·3	81·5	80·5	74·2	67·9	77·4
Calcutta	4	68·8	73·3	79·6	83·6	85·0	83·7	83·1	83·2	82·6	81·7	75·1	68·5	79·0
Jessore	4	66·0	70·8	78·9	82·3	85·3	83·5	83·3	83·2	82·8	80·6	72·0	64·7	77·8
Dacca	4	67·5	72·8	79·8	82·0	83·6	83·5	83·2	83·8	83·2	81·6	74·9	68·5	78·7
Silchar	2-3	64·4	68·2	74·5	78·2	81 1	81·9	82·1	81·6	81·4	79·8	72·1	65·0	75·9
Goalparah	3	64·3	67·4	73·0	77·1	78·2	79·9	81·0	81·3	80·0	78·3	71·1	64 8	74·7
Shillong	3	51·3	54·2	61·4	64·5	68·4	69·4	69·4	69·2	67·3	63·5	56·0	50·1	62·1
Darjeeling	4	42·9	44·5	50·4	56·1	60·2	63·3	63·9	64 0	62·1	58·0	50·2	44·0	55·0
Berhampore	4	65·3	70·7	78·2	85·5	86·3	84·6	84·0	84·1	83·4	81·7	73·5	66·2	78·6
Monghyr	4	62·8	68·5	77·1	84·7	86·8	86·2	84·1	83·8	82·8	80·4	71·4	63·5	77·7
Hazareebaugh	4	61·7	66·2	74·3	82·6	85·9	81·4	79·2	77·9	77·3	74·5	68·9	61·6	74·3
Patna	4	60·7	66·2	76·6	83·7	87·0	87·2	84·1	83·4	82·3	78·9	68·9	61·8	76 7
Benares	3-5	58·5	67·8	75·2	86·2	91·2	90·2	85·9	85·2	84·0	79·2	68·5	59·1	77·6
Jhansi	4	60·8	68·3	75·4	85·6	95·1	90·9	83·6	82·3	82·0	77·9	69·6	63·0	77 9
Agra	4	58·7	63·9	73·3	84·1	93·6	92·9	87·5	84·7	83·9	79·1	69·3	61·8	77 7
Roorkee	5	57·6	62·3	69·6	80·4	88·8	89·0	84·5	84·2	83·0	76·0	63·7	57·5	74 7
Jubbulpore	3	62·9	67·2	73·5	84·2	90·2	87·4	78·6	77·9	78·7	75·0	67·6	62·7	75·5
Nágpore	3	70·5	75·1	81·1	87·3	93·8	86·0	78·4	78·9	79·0	77·5	72·3	68·7	79·0

Table XI.—Comparison of the Temperatures of 1872, with the averages of Table X.

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Year.
Port Blair	+1·0	+0·7	—1·1	+0·5	+0·1	+0·8	—0·6	—0·9	—0·9	—0·9	+1·2	+0·4	.....
Madras	+1·4	—0·2	—0·1	—1·0	—2·0	—1·9	+0·4	—1·3	+0·1	—1·8	—0·1	—1·0	—0·4
Akyab	+0·3	—3·0	—0·3	—0·4	—1·2	+0·1	...	—0·8	—0·1	—0·3	—0·1	+0·3	—0·5
False Point	+0·3	+0·2	+0·6	+0·9	+0·3	+0·1	—1·1	—0·4	—0·2	—1·0	+0·5	+0·5	+0·1
Cuttack	+2·5	+2·0	+3·8	+0·8	+1·3	+0·2	—1·2	—1·5	—0·5	—1·3	+0·7	+2·0	+0·7
Saugor Island ...	—0·2	+0·4	+2·7	+1·5	+1.2	+0·4	—0·7	+0·5	+0·5	—0·8	+0·4	?	
Chittagong	+0·4	—1·1	+1·5	+1·5	—0·7	+1·4	—0·1	—0·4	—0·3	—0·3	+2·0	+2·3	+0·5
Calcutta	+0·4	+0·4	+3·5	+2·3	+2·0	+1·7	+0·2	—0·1	+0·6	—0·1	+1·5	+1·8	+1·2
Jessore	+0·1	—0·7	+4·6	+2·7	—1·2	+0·9	—0·5	...	—0·2	+0·2	+2·9	+3·3	+1·0
Dacca	—0·8	—3·2	+2·0	+0·4	—0·7	+0·6	—0·2	—0·3	—0·2	—0·5	+0·8	+0·5	—0·1
Silchar	—0·3	—2·5	+1.3	—0·9	—1·7	+0·4	—0·8	+0·8	—0·8	—0·3	+1·6	+1·8	—0·1
Goalparah	—0·6	—1·4	+3·1	+0·6	—0·2	—0·5	+0·5	+0·8	—0·2	—1·9	+0·7	+2·7	+0·3
Shillong	—1·5	—2·8	+1·7	+2·0	—1·0	+0·1	—0·6	+0·3	—0·1	—0·4	+2·7	+2·2	+0·2
Darjeeling	—0·4	—2·3	+3·1	...	—0·3	—1·4	—0·9	—0·3	—0·6	—1·0	+1·6	+3·2	+0·1
Berhampore	+0·3	—2·8	+3·0	+0·1	+0·8	+1·4	+0·2	+0·4	+0·5	—0·5	+1·9	+2·0	+0·6
Monghyr	—0·4	—2·2	+2·8	+0·9	+1·5	+1·7	—0·3	+0·4	+0·7	—0·3	+1·7	+2·1	+0·9
Hazareebaugh ...	—0·3	—2·3	+2·8	+0·3	+1·6	+2·7	+1·6	...	+0·6	?	—1·0	+1·1	
Patna	+0·9	—1·7	+2·8	+3·1	+2·5	+1·2	+0·6	+1·4	+1·5	+0·9	+3·0	+2·9	+1·6
Benares	+2·6	—2·9	+4·5	—0·4	+0·8	+0·5	—1·5	—1·2	—0·6	—0·6	+1·0	+4·	+0·5
Jhansi	+1·9	+0·7	+7·6	+3·4	+1·5	+4·1	—0·1	—0·8	+2·0	+0·3	+6·1	+4·7	+2·6
Agra	+0·5	+0·1	+6·5	+2·4	+0·2	+2·3	—1·8	—2·5	—2·2	—0·1	+1·4	+2·9	+0·8
Roorkee	—0·9	—3·0	+3·3	+0·1	—1·2	+0·5	—1·5	—1·3	—1·6	—1·2	+2·6	+1·4	—0·2
Jubbulpore	+0·9	—4·0	+4·1	+1·1	+3·4	+1·5	+1·2	—0·1	+0·1	—2·9	—3·3	—1·0	+0·1
Nágpore	—1·6	—1·9	+3·5	—0·4	+0·5	+2·7	+0·6	—0·7	—0·4	—1·6	—2·6	0	—0·2

At Cuttack, as well as at the neighbouring stations, False Point and Saugor Island, the temperature was above the average during the first six months of the year; especially in the month of March. The same was the case at Jhansi and Agra. In Bengal generally, the temperature was two or three degrees lower than is usual in February, and three or four degrees higher in March. In April and May the distribution of temperature was somewhat peculiar. There appears to have been an excessive temperature in the country lying to the west of Orissa, if the register of Sumbulpore can be trusted; and between this and Western Rajpootana (where the temperature was also high) lay a comparatively cool tract, the lowest temperatures of which were those of Allahabad and Jubbulpore. April was unusually hot in most parts of Northern India, and May also, excepting in the eastern districts of Bengal. In June the absence of the usual rains caused the temperature to remain unusually high, but in the latter part of the rainy season, and in October, it fell to somewhat below the average. In July and the succeeding months, the tract between Orissa and Nagpore that had experienced so high a temperature in April and May, became the coolest in Northern India, while unusual heat prevailed in Behar, and in a circumscribed area which included Lucknow and Jhansi, in the North-West Provinces. In November and December the temperature was above the average almost everywhere; and southerly winds were very prevalent.

Temperature of Radiation.

Tables of the maximum temperature of solar radiation are given for twenty stations, of which fifteen are complete, the remainder being deficient in the registers of one or more months, owing to the destruction of the instruments and delay in replacing them.

At Vizagapatam the observations were made with an unprotected black bulb thermometer: at other stations, with maximum thermometers on Negretti and Zambra's patented principle, enclosed in a vacuum tube, the thermometer bulb being coated with lamp-black.

Tables of the readings of a Rutherford's minimum thermometer, placed on forked sticks immediately over the grass, and allowed to radiate its heat freely during the night time, are given for seventeen stations, of which thirteen are complete. The Chittagong register is evidently not comparable with the others I believe this is owing to the Observatory being situated on a little hill, from which the air cooled by radiation must flow away as a convection current.

Table XII.—Maximum, Minimum, and Mean Monthly Readings of the exposed Black-Bulb Thermometer in Vacuo.

	PORT BLAIR.					VIZAGAPATAM.				
	Mean	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	151·5	25th	157·0	13th	146·0	106·8	9th	114·0	6th	100·5
February ...	150·8	3rd	157·0	15th	144·0	112·1	14th	117·7	27th	109·0
March ...	156·8	21st	161·0	8th	151·0	110·2	29th	115·0	24th&25th	105·0
April ...	158·8	29th	166·0	18th	155·0	112·9	22nd	119·5	28th	107·0
May ...	137·5	2nd	155·0	25th	97·0	114·0	11th&12th	125·0	28th	108·0
June ...	145·4	18th	158·0	21st	92·0	111·2	19th	120·0	16th	105·0
July ...		Wanting				109·0	16th--18th	117·0	12th	91·0
August ...		Do.				109·2	29th	120·0	30th	97·0
September ...		Do.				110·8	8th	124·5	16th	97·5
October ...	140·3	15th	162·0	24th	90·0	114·8	13th	122·0	21st	99·0
November ...	147·0	18th	163·0	28th	95·0	114·6	3rd	122·5	23rd	104·0
December ...	150·2	21st	156·0	4th	141·0	112·7	9th	121·0	1st	92·0

	AKYAB.					CUTTACK.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...		Wanting				130·9	27th	138.0	19th&20th	126·0
February ...	132·3	29th	147·0	4th	102·0	138·2	23rd	144·5	9th	129·0
March ...	147·4	16th	154·0	21st	144·0	144·9	28th	157·0	31st	105·0
April ...		Wanting				154·2	25th&26th	159·8	6th	123·0
May ...	146·4	28th&29th	158·0	2nd	111·0	163·7	25th	165·0	1st—5th	159·0
June ...	137·7	18th	156·0	26th	91·0	153·8	2nd	164·0	27th	120·0
July ...	133·3	9th	160·0	25th	84·0	149·3	26th	156·0	1st	123·0
August ...	144·7	30th	159·0	25th	107·0	156·0	26th–31st	158·0	16th	148·0
September ...	145·2	23rd	164·0	22nd	93·0	162·0	11th	169·0	29th	156·4
October ...	140·0	25th	152·0	28th	89·0	144·6	18th	160·0	24th	90·0
November ...	140·4	17th	147·0	29th	136·0	138·2	15th	151·5	29th	87·0
December ...	134·8	4th	152·0	5th	123·0	137·3	3rd	145·0	1st	128·0

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	130·2	18th	138·7	19th	125·5	135·1	31st	139·5	11th	129·0
February ...	135·0	22nd	141·8	4th	126·2	138·9	28th	144·3	9th	132·6
March ...	139·3	5th	147·5	25th	134·0	144·9	7th	150·6	2nd	141·2
April ...	142·5	2nd	147·1	27th	139·6	148·3	18th	155·4	30th	134·6
May ...	143·2	13th	155·0	18th	133·2	147·9	30th	155·0	9th	129·7
June ...	136·5	25th	151·0	26th	92·5	141·9	2nd	158·3	28th	95·0
July ...	133·0	17th	150·0	2nd	101·9	135·9	13th	159·0	28th	90·6
August ...	142·2	21st	157·0	13th	104·8	144·1	30th	156·4	1st	101·7
September ...	146·4	25th	169·0	12th	107·7	144·7	13th	157·1	20th	104·1
October ...	142·3	8th	155·0	24th	87·0	140·3	6th	158·0	10th	92·8
November ...	139·8	6th	145·4	24th	126·4	141·1	28th	158·0	30th	112·5
December ...	135·5	3rd	139·3	4th	124·4	134·5	4th	141·3	3rd	112·0

	CALCUTTA.					JESSORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	132·6	9th	148·3	10th	117·0		Wanting.			
February ...	133·5	5th	140·8	7th	125·0	134·7	19th	141·0	7th	120·0
March ...	140·6	24th	147·0	2nd	130·2	145·4	29th	150·4	1st	137·0
April ...	142·3	13th	149·0	1st	121·5	148·4	8th	156·8	1st	112·2
May ...	142·6	3rd	149·5	10th	122·2	146·2	4th	152·2	17th	134·0
June ...	138·3	17th	148·0	22nd	113·6	144·0	27th	152·0	11th	100·2
July ...	137·5	5th	148·0	1st	114·8	143·9	26th	155·9	1st	116·3
August ...	136·9	11th	146·5	13th	105·0	148·7	14th	158·0	1st	122·9
September ...	138·8	6th	147·5	5th	109·8	143·1	7th	160·0	20th	78·8
October ...	140·1	7th	148·8	13th	122·0	144·0	28th	161·0	25th	82·2
November ...	137·5	5th	148·5	30th	122·5	139·3	4th	147·6	30th	130·3
December ...	132·4	3rd	141·0	31st	122·5	133·1	1st	143·7	31st	125·8

	DACCA.					CACHAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	131·0	28th	140·3	8th	124·5	121·4	28th	130·0	8th	116·0
February ...	136·2	25th	144·4	9th	128·0	124·2	29th	134·0	6th	102·0
March ...	145·1	27th	153·0	1st	139·0	132·6	24th&25th	140 0	29th	119·0
April ...	150 8	23rd	159·0	5th	143·0	130·9	15th	145·0	30th	99 0
May ...	147·6	22nd–24th	157·0	10th	76·4	137·1	19th	154·0	17th	92·0
June ...	145·8	9th	159·0	11th	88·0	134·8	30th	158·0	4th	100 0
July ...	140·2	22nd	162·0	28th	86·0	132·7	1st	157·0	3rd	100·0
August ...	145.6	2nd	162·0	1st	93·0	132·1	5th	150·0	12th	92·0
September ...	143·6	13th	159·0	20th	108·5	125·7	10th	152·0	29th	98·0
October ...	144·8	9th	177·0	25th	87·2	131·8	19th&20th	144·0	25th	85·0
November ...	139·8	1st	146·8	30th	95·0	128·6	3rd	139·0	30th	110·0
December ...	134·1	2nd	143·4	3rd	114·5	121·0	8th	130·0	3rd	110·0

	HAZAREEBAGH.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	127·8	30th	138·0	26th	120·0	127·9	30th	135·0	8th	108·5
February ...	129·0	14th	143·0	6th	96·0	132·9	29th	148·0	6th	101·0
March ...	145·5	30th	159·0	31st	117·0	144·0	23rd	151·0	1st	132·0
April ...	161·2	29th	182·0	1st	145·0			Wanting.		
May ...	163·3	24th	177·0	21st	155·0	152·3	27th	161·5	5th	141·0
June ...	156·6	7th	176·0	30th	140·0	152·1	12th	161·5	13th	110·0
July ...	143·9	18th	161·0	5th	111·0	149·2	27th	161·0	5th	97·0
August ...	149·7	17th	168·0	14th	123·0	154·9	12th	167·0	1st	128·0
September ...	152·5	12th	166·0	22nd	122·0	152·7	18th	166·0	4th	123·0
October ...	141 2	16th	156 0	25th	100·0	147·7	17th	163·0	25th	78·0
November ...	139·1	7th	155 0	29th	127·0	144·4	1st	154·0	29th	124·5
December ...	130·4	17th	141·0	3rd	107·0	135·4	2nd	147·0	4th	125·0

	GYA.					PATNA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	° θ	Day.	θ		Day.	θ	Day.	θ
January ...	115·8	31st	121·0	19th	111·0	127·5	2nd	143·0	25th	118·0
February ...	120·1	29th	137·0	4th	63·0	134·4	29th	152·0	4th	74·0
March ...	139·6	30th	150·0	31st	118·0	150·8	28th	164·0	4th	140·3
April ...	147·4	29th	160·0	7th	133·0	156·6	3rd	165·0	15th	141·0
May ...	151·7	31st	158·0	11th	142·0	155·8	30th	163·0	11th	141·0
June ...	151·9	1st	160·0	19th	136·0	155·1	30th	162·0	15th	133·0
July ...	140·4	18th	154·0	16th	93·0	148·9	19th	163·0	30th	113·0
August ...	141·8	9th	160·0	2nd	102·0	148·0	5th	163·0	20th	99·0
September ...	139·9	11th	152·0	5th	113·0	150·2	23rd	161·0	5th	118·0
October ...	132·1	7th	145·0	25th&26th	88·0	144·6	7th	159·0	26th	87·0
November ...	125·1	7th	134·5	25th	115·0	141·5	7th & 8th	148·0	29th	136·7
December ...	105·5	1st	125·0	28th	94·5	134·1	1st	140·4	31st	130·0

	MONGHYR.					DARJEELING.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	θ	Day.	θ		Day.	θ	Day.	θ
January ...	126·4	28th&29th	132·0	19th	120·0	111·3	21st	132·0	25th	76·0
February ...	131·2	29th	138·0	4th	108·0	103·9	25th	122·0	11th	53·0
March ...	146·7	25th	154·0	1st	139·0	117·9	15th	133·0	11th	88·0
April ...	152·8	29th	163·0	18th	140·0	124·0	29th	133·0	25th	97·0
May ...		Wanting.				129·6	26th	144·0	13th	108·0
June ...			Do.			126·2	27th	142·0	15th	99·0
July ...			Do.			127·1	19th	142·0	29th	80·0
August ...			Do.			128·5	5th	142·0	31st	108·0
September ...			Do.			124·1	15th	141·0	5th	96·0
October ...	141·7	20th	148·0	26th&27th	110·0	127·1	20th	140·0	26th	61·0
November ...	135·9	5th	143·0	26th	128·0	118·9	30th	134·0	23rd	99·0
December ..	128·2	2nd	142·0	3rd	95·8	114·7	9th & 10th	122·0	3rd	94·0

	GOALPARAH.					SHILLONG.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	Θ	Day.	Θ		Day.	Θ	Day.	Θ
January ...	124·5	27th	133·4	25th	92·1	125·2	6th	139·0	9th	119·0
February ...	132·0	5th	139 0	21st	122·4	126·9	27th	139·5	10th	92·0
March ...	142·3	28th & 29th	150·0	1st	132·4	137·3	31st	151·0	26th	95·0
April ...	147·5	30th	156·9	26th	136·0	142·9	25th	150·0	23rd	106·0
May ...	144·6	3rd	158·2	7th	93·0	141·3	28th	159·0	4th	100·0
June ...	140·3	22nd	156·0	15th	110·6	143·2	30th	162·0	4th	103·0
July ...	145·8	19th	155·5	20th	120·0	146·5	26th	176·5	4th	99·0
August ...	147·2	27th	158·0	6th	124·0	152·6	23rd	179·0	1st	103·5
September ...	138·3	12th	157·0	21st	91·0	149·6	15th	176·0	23rd	98·0
October ...	134·0	24th	151·3	26th	76·0	138·1	2nd	155·5	1st	105·5
November ...	119·6	1st	135·0	28th	101·0	136·9	3rd	145·5	14th	125·5
December ...	114·8	9th	125·3	4th	102·2	126·9	9th	142·5	3rd	106·5

	BENARES.					ROORKEE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	Θ	Day.	Θ		Day.	Θ	Day.	Θ
January ...	122·6	28th	131·0	25th	106·0	106·1	1st	122·0	20th	90·0
February ...	127·4	29th	139·5	5th	98·0	114·1	25th	129·0	5th	98·0
March ...	145·2	31st	153·0	5th	123·0	131·9	25th	146·5	31st	97·0
April ...	151·2	30th	157·0	1st	128·0	134·6	13th	146·0	15th	120·0
May ...	155·7	31st	160·0	9th	150·0	152·9	5th	167·0	16th	126·0
June ...	153·2	8th	164·0	14th	135·0	149·7	2nd	164·0	28th	120·0
July ...	148·8	25th	162·0	30th	95·0	141·5	24th	154·0	29th	90·0
August ...	148·0	7th	162·0	13th	124·0	138·2	23rd	152·2	27th	100·3
September ...	148·7	16th	159·0	6th	115·0	142·3	18th	150·4	21st	93·4
October ...	143·9	1st	157·0	26th	129·0	141·2	1st	146·1	28th	139·0
November ...	132·4	7th & 8th	142·0	29th	123·0	135·8	22nd	143·7	17th	127·7
December ...	122·5	2nd	129·0	3rd	113·0	125·7	8th	138·7	17th	71·7

Table XIII.—Maximum, Minimum, and Mean Monthly Readings of exposed Grass Radiation Thermometer.

	AKYAB.					CUTTACK.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...		Wanting				58·8	17th	70·5	12th	48·0
February ...	49·5	29th	57·1	21st	42·6	59·3	11th	73·0	9th	45·0
March ...	60·3	19th	69·1	7th	52·6	68·7	14th	77·0	6th	59·0
April ...	68·8	26th	82·2	2nd	57·1	76 2			18th	65·7
May ..	73·5	25th	79·2	11th	65·1	72·0	28th	82·1	1st	50 2
June ...	75·5	13th	78·2	5th	70·1		Wanting			
July ...	75·1	8th	79·2	15th	70·1	75·5	13th&14th	77·2	10th	73·7
August ...	74·9	28th	78·2	5th	66·1	76·3	12th	79·1	17th	74·2
September ...	75·2	11th	78·1	22nd	72·1	75·8	12th	79·1	7th	73·9
October ...	73·5	6th	77·8	31st	68·1	69·7	5th	76·6	31st	58·9
November ...			Wanting			55·4	16th	63·2	28th	45·1
December ...			do.			54·1	5th	70·4	28th	40·5

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	56·3	25th	64·8	12th	45·4	69·8	20th	74·2	11th	66·0
February ...	62·8	29th	72·6	25th	51·9		Wanting			
March ...	74·1	30th	79·4	3rd	65·0	69·2	3rd	73·5	12th	61·0
April ...	78·4	27th	82·7	18th	68·4	70·7	27th	76·0	5th	64·2
May ...	79·2	29th	83·8	18th	69·8	73·6	26th&27th	77·4	9th	67·0
June ...	79·1	4th	84·0	6th	73·0	75·6	25th	78·3	29th	74·3
July ...	77·0	15th	80·2	2nd	61·0	75·3	9th	77·3	21st	72·3
August ...	77·9	1st	81·8	13th	75·2	75·5	28th	77·5	15th	73·6
September ...	77·0	5th	80·0	8th	73·3	75·1	11th	78·6	5th	72·8
October ...	72·7	7th	77·4	23rd	66·1	73·1	1st	75·9	31st	68·9
November ...	62·8	14th	70·5	27th	54·0	66·6	8th	79·8	28th	60·3
December ...	56·2	3rd	73·4	30th	48·0	57·9	20th	76·9	29th	48·5

	JESSORE.					DACCA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	45·1	5th	56·0	10th	33·9	49·8	5th	56·3	10th	42·5
February ...	48·6	29th	60·0	9th	40·2	52·0	29th	67·0	9th	43·3
March ...	63·5	30th	75·2	6th	50·9	68·8	29th	75·5	6th	57·2
April ...	68·3	28th	77·2	3rd	60·2	69·5	27th	78·4	5th	62·6
May ...	72·8	29th	80·2	8th	65·0	73·3	29th	81·0	1st	66·5
June ...	76·8	18th	79·0	6th	72·0	77·0	4th	80·2	5th	73·0
July ...	76·2	15th	78·5	3rd	74·1	77·2	15th	79·7	2nd	74·5
August ...	76·5	12th	78·0	14th	74·8	77·4	29th	79·2	15th	74·3
September ...	75·2	11th	79·0	5th	73·0	75·8	30th	78·2	18th	72·3
October ...	70·4	1st	78·0	24th	63·9	72·4	1st	79·7	20th	67·6
November ...	58·3	13th	66·0	26th	48·9	60·0	1st	68·9	28th	53·5
December ...	48·8	1st	65·0	28th	39·9	51·7	4th	64·9	26th	44·4

	CACHAR.					HAZAREEBAGH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	48·1	26th	59·0	11th	40·0	43·8	17th	53·0	10th	31·0
February ...	49·3	7th	78·0	11th	43·0	46·6	2nd	56·0	16th	38·0
March ...	60·6	18th	70·0	9th & 10th	54·0	58·7	26th	68·0	5th	50·0
April ...	65·7	16th	72·0	5th	60·0	66·3	15th	75·0	3rd	57·0
May ...	70·6	31st	77·0	8th & 9th	65·0	72·0	.....	...	1st	65·0
June ...	75·0	27th	78·0	7th	72·0	74·5	3rd	81·0	12th	68·0
July ...	75·1	13th	79·0	2nd	72·0	70·9	28th	73·5	5th	63·0
August ...	76·5	5th	79·0	29th	74·0	72·2	8th	76·0	24th	71·0
September ...	74·6	12th	80·0	19th	72·0	70·1	1st	73·0	18th	65·0
October ...	71·8	10th	76·0	26th	68·0	60·7	1st	69·0	23rd	50·0
November ...	59·9	7th	68·0	29th & 30th	51·0	47·9	5th	56·0	27th	37·0
December ...	52·5	4th	63·0	30th	42·0	40·9	2nd	64·0	26th & 27th	32·0

	BERHAMPORE.					GYA.				
	Mean	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	48·9	5th	58·0	10th	40·0	49·3	26th	58·0	11th	39·0
February ...	50·8	7th	58·5	8th	43·0	51·9	29th	59·0	18th	45·5
March ...	57·8	27th	65·0	9th	52·5	63·4	31st	75·0	8th	55·0
April ...	69·7	28th	73·0	3rd	59·5	71·6	15th	80·0	3rd	61·5
May ...	74·0	28th	81·5	20th–22nd	68·0	78·0	29th	83·0	11th	69·0
June ...	76·7	3rd	80·5	13th	73·0	81·6	24th&25th	86·0	26th	77·0
July ...	76·6	15th	80·0	5th	74·5	76·9	1st	81·5	9th	74·0
August ...	77·1	11th	79·0	3rd	74·0	77·3	11th	80·0	27th	75·0
September ...	75·6	16th	79·0	24th	73·0	75·2	1st	78·0	27th	74·0
October ...	70·1	7th	76·5	22nd	63·0	66·1	1st	75·0	23rd	55·0
November ...	61·0	5th	68·0	28th	51·0	53·8	6th	65·0	28th	41·5
December ...	53·4	3rd	67·0	28th–30th	46·0	47·1	3rd	65·5	27th	38·0

	PATNA.					MONGHYR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	47·7	3rd	58·0	11th	39·0	42·8	3rd	52·2	10th	32·1
February ...	48·1	29th	57·2	17th	42·0	46·1	7th	55 2	17th	40·1
March ...	56·0	31st	66·0	6th	48·0	54·4	17th	62·0	9th	47·1
April ...	65·6	24th	70·0	3rd	58·6	62·2	25th	69·0	4th	53·2
May ...	70·0	26th	74·6	1st	63·0	67·0	26th	72·2	1st	57·2
June ...	74·2	28th	78·0	14th–17th	72·0	74·8	27th&28th	78·2	17th	69·2
July ...	74·1	27th	76·3	3rd & 4th	72·0	72·6	3rd	75·0	31st	71·0
August ...	75·0	11th	76·5	30th	72·0	71·5	5th	74·2	12th	69·2
September ...	74·1	30th	77·3	26th–28th	72·0	68·2	12th	71·2	21st	65·2
October ...	67·0	1st	73·0	23rd	58·0	59·2	1st	68·2	23rd	51·2
November ...	54·6	7th	63·0	28th	43·0	49·6	21st	53·2	28th	42·1
December ...	46·3	3rd & 4th	54 0	26th–28th	41·0	45·4	3rd	57·2	14th	40·6

	DARJEELING.					GOALPARAH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	29·8	23rd	35·0	11th&12th	24·0	48·8	5th	55·6	10th	43·0
February ...	29·0	27th	33·0	16th	24·0	51·5	29th	58·2	17th	45·1
March ...	40·0	31st	45·9	1st	30·0	59·1	17th	70·2	12th	52·0
April ...	43·5	22nd	48·9	2nd	38·0		No Instrument			
May ...	51·8	28th	53·8	1st	43·9	67·3	3rd	74·5	18th	60·0
June ...	54·5	27th	56·8	1st	50·9	72·6	25th	74·5	5th	69·1
July ...	54·9	31st	57·8	21st	50·9	73·5	19th	75·5	13th	71·5
August ...	55·5	3rd	57·8	30th	53·8	74·8	12th	76·4	1st	72·9
September ...	53·0	29th	54·8	20th	50·9	74·0	12th	78·5	21st&22nd	69·5
October ...	45·5	1st	54·0	24th	40·0	67·4	1st	72·5	22nd	64·5
November ...	38·3	1st	45·0	30th	33·0	61·5	1st	67·5	30th	58·0
December ...	33·2	21st	36·0	30th	27·0	54·9	5th	58·8	31st	48·5

	SHILLONG.					BENARES.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January ...	33·3	25th	42·0	7th	25·0	47·0	2nd	59·0	10th	35·0
February ...	34·3	6th	42·0	9th	26·5	46·3	29th	57·0	21st	39·0
March ...	46·5	17th	56·0	8th	39·0	55·6	31st	68·0	8th	46·0
April ...	50·6	26th	59·5	4th	40·5	62·6	15th	75·0	19th	50·0
May ...	53·8	29th	56·5	12th	50·0	71·8	16th	82·0	1st & 2nd	60·0
June ...	57·1	26th	59·5	10th&11th	53·0	78·8	13th	85·0	7th	70·0
July ...	56·9	29th	61·5	23rd	53·0	74·2	6th	91·0	4th	62·0
August ...	57·3	22nd	60·0	28th	53·0	73·8	8th	79·5	16th	40·0
September ...	54·9	12th	59·0	27th	51·0	74·5	26th	78·0	5th	61·0
October ...	47·7	1st	56·5	12th	42·0		No Instrument			
November ...	36·6	1st	45·0	30th	29·0			Ditto		
December ...	30·7	7th	40·5	29th	22·0			Ditto		

ROORKEE.

	Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖
January	43·0	30th	53·0	8th	35·0
February	42·7	28th	58·0	16th	36·0
March	53·8	30th	63·0	2nd & 3rd	46·0
April	63·2	26th	71·0	2nd & 3rd	56·0
May	70·6	16th	80·0	2nd	62 0
June	76·1	9th	83·2	14th	68·0
July	75·8	24th	80·0	8th	71·0
August	77·0	4th	81·0	15th	71·0
September	76·1	5th	77·5	25th	67·0
October	53 0	17th	61·0	25th	45·0
November	44·6	21st	53·4	26th—28th	35·5
December	39·3	17th	51·5	9th	33·4

Vapour Tension.

A table of vapour tensions, computed from the observations of the dry and wet-bulb hygrometer, is given in this report for the first time. The tension shown by each observation has been taken from Guyot's Psychrometrical Table (which is computed by Auguste's formula with Regnault's constants); and the means of these for each hour of observation and for the day of each month are given in the following tables. The last is assumed to be represented by the mean of the four sets of six-hourly observations. As an empirical test of the justice of this assumption, I have compared the average results of fourteen years' observations thus obtained, with the averages of the hourly observations for the same period, at Calcutta. The two are closely accordant, notwithstanding that the form of the diurnal curve of vapour tension undergoes great variations during the year.

These values are not strictly comparable with those given in the following table, inasmuch as they have been obtained by the use of the Greenwich factors. In order to show the difference thus arising, I give, below, the Calcutta mean vapour tensions for last year, computed by the two methods, in parallel columns :—

Table XIV.—Comparative Table of Mean Vapour Tensions computed by different methods.

	Mean of 14 years.		Mean of 1 year from six hourly observations.	
	From hourly observations.	From 6-hourly observations.	By Greenwich factors.	By Guyot's table.
January	·487	·485	·510	·517
February	·549	·547	·556	·570
March	·695	·693	·731	·768
April	·805	·805	·794	·842
May	·889	.889	·886	·946
June	·947	·947	·944	·996
July	·954	·953	·949	·997
August	·950	·950	·972	1·015
September	·950	·947	·937	·986
October	·828	·823	·840	·888
November	·605	.610	·646	·673
December	·489	·487	·531	·543

I am unable at present to institute a comparison between the vapour tensions of the past year and the averages of several years; since the only table of average values, as yet drawn up, is one computed directly from the mean temperature and mean humidity, and assigns values in all cases too low. In the case of Calcutta alone, the data for such a comparison are afforded by columns 2 and 3 of the above table. These show that in the first three months of year, in August, and the last three months, the tension was above the average, and in the remaining months but little below it.

Table XV.—Mean Elastic Force of Vapour for 1872.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.
January			·767	·765	
February			·779	·783	
March			·846	·868	
April			·947	·948	
May			·961	·937	
June			·968	·955	
July			·919	·929	
August			·913	·900	
September			·922	·898	
October			·917	·899	
November			·889	·863	
December			·803	·775	

MADRAS.

	Mean.	4h.	10h.	16h.	22h.
January			·631	·609	
February			·669	·669	
March			·678	·721	
April			·782	·811	
May			·784	·822	
June			·754	·763	
July			·685	·726	
August			·769	·783	
September			·779	·812	
October			·777	·777	
November			·796	·774	
December			·729	·697	

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.
January	·597	·571	·592	·618	·606
February	·658	·648	·639	·664	·680
March	·761	·748	·710	·780	·805
April	·848	·836	·814	·868	·874
May	·958	·940	·951	·976	·964
June	·926	·916	·921	·937	·931
July	·878	·875	·851	·889	·898
August	·910	·890	.916	·920	.912
September	·916	·901	·924	·913	·926
October	·828	·814	·843	·825	·830
November	·700	·674	·680	·720	·727
December	·643	·618	·642	·634	·677

AKYAB.

	Mean.	4h.	10h.	16h.	22h.
January	·582	·545	·581	·594	·610
February	·581	·538	·570	·584	·633
March	·753	·719	·742	·762	·789
April	·867	·843	·846	·886	·895
May	·961	·909	·968	1·002	·967
June	·970	·946	·973	·988	·972
July	·950	·923	·978	·950	·950
August	·949	·928	·966	·952	·948
September	·943	·919	·964	947	·941
October	.....	.....	·942	·931	·919
November	·804	·744	·836	·834	·802
December	.....	.....	·658	·644	·630

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	·633	·568	·651	·657	·656
February	·730	·671	·751	·759	·740
March	·945	·891	·949	·960	·980
April	1·051	1·015	1·046	1·060	1·081
May	1·125	1·095	1·128	1·142	1·134
June	1·091	1·065	1·096	1·112	1·089
July	1·039	.1003	1·048	1·061	1·045
August	1·036	·998	1·051	1·055	1·042
September	1·019	1·005	1·040	1·003	1·028
October	·918	·890	·953	·933	·898
November	·679	·630	·697	·727	·662
December	·587	·531	·613	·632	·573

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.
January	·507	·511	·539	·432	·548
February	·583	·602	·619	·489	·624
March	·730	·762	·775	·591	·791
April	·758	·828	·731	·661	·814
May	·887	·934	·909	·786	·919
June	.....	.....	·921	·912	·930
July	.....	.....	·934	·931	·921
August	.....	.....	·973	·967	·948
September	·942	·928	·959	·939	·942
October	·837	·818	·855	·834	·841
November	·623	·602	·628	·595	·667
December	·561	·542	·562	·541	·598

SAUGOR ISLANDS.

	Mean.	4h.	10h.	16h.	22h.
January	·597	·559	·608	·624	·597
February	·673	·660	·681	·667	·683
March	·910	·852	·934	·942	·911
April	·949	·915	·968	·949	·963
May	1·005	·994	1·020	1·024	·984
June	1·043	1·027	1·081	1·062	1·001
July	·992	·977	1·011	1·000	·981
August	·999	·972	1·016	1·012	·997
September	·961	·941	·980	·973	·949
October	·859	·862	·867	·849	·856
November	·632	·620	6·56	·598	·655
December		Untrustworthy.			

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.
January	·491	·456	·515	·483	·539
February	·532	·505	·550	·511	·564
March	·778	·717	·789	·798	·808
April	·874	·805	·904	·919	·869
May	·928	·869	·955	·961	·929
June	·939	·899	·951	·975	·931
July	·927	·900	·926	·959	·924
August	·932	·891	·943	·964	·931
September	·929	·902	·931	·953	·932
October	·880	·856	·888	·895	·881
November	·729	·673	·749	·775	·721
December	·580	·549	·605	·591	·574

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.
January	·517	·500	·516	·508	·544
February	·570	·563	·571	·537	·609
March	·768	·813	·816	·606	·838
April	·842	·886	·835	·780	·868
May	·946	·940	·984	·923	·937
June	·996	·992	1·022	·988	·982
July	·997	·980	1·007	1·001	1·000
August	1·015	1·000	1·023	1·025	1·014
September	·986	·968	·990	·992	·994
October	·888	·885	·897	·865	·907
November	·674	·662	·675	·646	·711
December	·543	·527	·544	·533	·567

JESSORE.

	Mean.	4h.	10h.	16h.	22h.
January	·459	·413	·485	·459	·478
February	·491	·468	·520	·468	·509
March	·673	·705	·737	·526	·725
April	·752	·767	·805	·684	·752
May	·908	·873	·980	·921	·860
June	·976	·956	1·015	·969	·965
July	·967	·953	·985	·969	·963
August	·986	·967	1·006	·994	·977
September	·957	·943	·963	·965	·958
October	·873	·856	·890	·850	·895
November	·633	·617	·646	·606	·662
December	·506	·468	·542	·495	·518

DACCA.

	Mean.	4h.	10h.	16h.	22h.
January	·511	·444	·556	·546	·498
February	·502	·457	·541	·505	·506
March	·760	·760	·788	·706	·785
April	·794	·793	·846	·756	·783
May	·941	·920	·955	·953	·934
June	·992	·975	1·018	·990	·985
July	·987	·976	·994	·991	·987
August	1·000	·990	1·005	·994	1·012
September	·981	·964	·994	·968	·996
October	·892	·882	·901	·875	·910
November	·655	·627	·687	·631	·675
December	·527	·484	·572	·531	·521

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.
January	·445	·392	·496	·464	·468
February	·456	·414	·497	·453	·462
March	·640	·589	·667	·655	·649
April	·719	·680	·720	·738	·737
May	·844	·792	·858	·875	·851
June	·926	·892	·934	·954	·925
July	·939	·880	·940	·989	·949
August	·965	·917	·952	1·028	·962
September	·914	·876	·919	·935	·925
October	·867	·821	·889	·894	·864
November	·678	·550	·700	·789	·673
December	·549	·435	·565	·676	·521

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.
January	·307	·300	·332	·279	·317
February	·251	·254	·248	·239	·262
March	·266	·232	·268	·291	·272
April	·349	·355	·355	·330	·358
May	·451	·476	·448	·399	·479
June	·704	·734	·721	·644	·719
July	·807	·796	·797	·807	·827
August	·834	·827	·835	·832	·843
September	·790	·780	·797	·785	·797
October			Erroneous.		
November	·416	·389	·426	·431	·417
December	·341	·317	·331	·298	·317

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.
January	·411	·389	·424	·403	·429
February	·402	·393	·419	·356	·440
March	·484	·534	·491	·379	·534
April	·747	·740	·796	·699	·752
May	·864	·875	·907	·854	·819
June	·957	·936	1·000	·944	·948
July	·968	·946	·984	·966	·975
August	·994	·974	1·008	·993	1·003
September	·948	·926	·966	·937	·962
October	·816	·817	·843	·757	·849
November	·642	·631	·665	·607	·665
December	·477	·459	·490	·464	·497

GYA.

	Mean.	4h.	10h.	16h.	22h.
January	·379	·370	·399	·364	·384
February	·307	·319	·305	·263	·340
March	·272	·301	·267	·219	·300
April	·392	·452	·409	·300	·408
May	·514	·557	·524	·435	·538
June	·781	·829	·779	·690	·826
July	·894	·899	·891	·881	·906
August	·955	·937	·959	·957	·970
September	·889	·880	·909	·878	·890
October	·633	·640	·648	·585	·659
November	·437	·440	·450	·405	·452
December	·353	·346	·376	·326	·366

PATNA.

	Mean.	4h.	10h.	16h.	22h.
January	·379	·311	·419	·409	·379
February	·396	·332	·436	·423	·392
March	·514	·457	·558	·515	·527
April	·624	·621	·637	·607	·633
May	·730	·732	·739	·680	·768
June	·892	·842	·941	·874	·911
July	·925	·880	·978	·932	·909
August	·935	·874	·967	·966	·935
September	·908	·849	·936	·938	·911
October	·673	·660	·680	·659	·693
November	·442	·418	·437	·448	·467
December	·371	·308	·397	·407	·372

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.
January	·417	·371	·433	·457	·409
February	·399	·378	·409	·411	·398
March	·393	·409	·392	·337	·434
April	·507	·507	·543	·459	·519
May	·712	·705	·737	·664	·741
June	·926	·920	·926	·931	·927
July	·941	·928	·947	·937	·953
August	·993	·969	·999	1·000	1·006
September	·957	·938	·964	·949	·978
October	·712	·720	·733	·667	·728
November	·535	·519	·567	·518	·537
December	·412	·384	·419	·425	·421

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.
January	·191	·176	·184	·207	·198
February	·177	·173	·167	·191	·178
March	·269	·260	·260	·272	·277
April	·323	·316	·318	·322	·337
May	·419	·390	·453	·425	·409
June	·488	·475	·491	·496	·492
July	·504	·476	·507	·526	·506
August	·533	·498	·545	·560	·531
September	·494	·449	·515	·530	·480
October	·371	·322	·395	·406	·361
November	·270	·226	·289	·297	·267
December	·217	·181	·224	·235	·226

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.
January	·414	·384	·449	·419	·405
February	·412	·393	·448	·403	·404
March	·523	·510	·558	·534	·492
April	·660	·623	·675	·684	·658
May	·764	·727	·780	·790	·760
June	·863	·798	·893	·913	·849
July	·909	·848	·940	·941	·909
August	·922	·886	·935	·946	·919
September	·885	·835	·912	·906	·888
October	·754	·692	·794	·793	·739
November	·626	·574	·656	·648	·625
December	·513	·462	·547	·539	·505

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.
January	·257	·211	·244	·313	·259
February	·239	·207	·223	·267	·259
March	·335	·285	·357	·363	·337
April	·397	·348	·420	·423	·397
May	·529	·460	·564	·581	·513
June	·600	·551	·634	·633	·583
July	·629	·580	·661	·657	·617
August	·644	·608	·678	·700	·589
September	·602	·558	·635	·629	·587
October	Erroneous.		·555	·575	·500
November			·367	·432	·374
December	·288	·245	·298	·307	·303

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January	·414	·386	·422	·416	·434
February	·342	·343	·326	·312	·386
March	·356	·409	·332	·281	·402
April	·425	·477	·403	·334	·485
May	·552	·609	·522	·472	·607
June	·877	·916	·903	·809	·881
July	·961	·924	·966	·993	·963
August	·999	·972	1·009	1·025	·991
September	·927	·901	·932	·948	·927
October	·605	·600	·578	·601	·643
November	·448	·395	·414	·525	·457
December	·376	·328	·395	·400	·380

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January	·350	·325	·359	·348	·370
February	·307	·298	·333	·275	·323
March	·371	·387	·367	·305	·426
April	·391	·430	·376	·327	·433
May	·446	·488	·458	·349	·488
June ...	·728	·735	·774	·664	·738
July	·910	·880	·911	·916	·931
August	·933	·895	·942	·941	·954
September	·836	·810	·846	·833	·857
October	·532	·516	·540	·475	·599
November	·357	·334	·361	·334	·399
December	·325	·282	·349	·339	·331

Relative Humidity.

The relative humidity has been deduced from the readings of the dry and wet-bulb thermometers, by the use of Guyot's Psychrometric tables. The mean of the four readings is assumed as the mean of the day. That this assumption involves no error of importance in the case of Calcutta (the only station at which hourly readings have been recorded) was shown in the report for 1868, by a comparison of the means of the six-hourly and hourly readings. The greatest error amounted to 2 per cent. of saturation; but it must be observed that this occurred in the driest month (March), and it is not improbable, therefore, that were a similar comparison instituted with observations made in a dry climate, such as the N. W. Provinces or the Punjab, a somewhat greater difference might be found. The mean diurnal curve of humidity in every month of the year at Calcutta is an exact inversion of the temperature curve for the same month.

In the Calcutta registers the humidity is computed by the use of Glaisher's factors.

In Table XVII. is given the average value of this element, as deduced from the registers of the four years, 1868-1871. Since there is at present no method by which the mean humidity of the day can be satisfactorily computed from the two observations at 10h and 16h, the table is divided into two sections; of which the first shows the approximate mean humidity of the stations, at which six-hourly observations have been made, while the second gives the arithmetical means of certain observations only; the value of which, relatively to the first, cannot be determined at present.

In Table XVIII. the deviation of the mean humidities of 1872, from the values in Table XVII., is given under two headings corresponding to those of the latter table.

Table XVI.—Mean Humidity for 1872.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.
January			·65	·63	
February			·70	·62	
March			·69	·66	
April			·66	·66	
May			·77	·76	
June			·78	·79	
July			·79	·81	
August			·79	·81	
September			·81	·81	
October			·81	·79	
November			·71	·71	
December			·69	·66	

MADRAS.

	Mean.	4h.	10h.	16h.	22h.
January			·58	·56	
February			·59	·59	
March			·54	·60	
April			·56	·62	
May			·53	·60	
June			·54	·56	
July			·52	·53	
August			·64	·59	
September			·62	·63	
October			·69	·68	
November			·77	·76	
December			·71	·70	

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.
January	·63	·68	·61	·59	·66
February	·64	·68	·61	·59	·67
March	·67	·70	·62	·64	·71
April	·66	·69	·61	·64	·69
May	·69	·71	·66	·67	·71
June	·72	·73	·71	·71	·73
July	·77	·79	·77	·73	·78
August	·77	·78	·77	·75	·78
September	·78	·80	·79	·76	·79
October	·77	·77	·78	·76	·76
November	·69	·72	·67	·67	·70
December	·69	·71	·69	·65	·71

AKYAB.

	Mean.	4h.	10h.	16h.	22h.
January	·77	·84	·79	·62	·83
February	·74	·87	·68	·57	·85
March	·78	·92	·69	·66	·84
April	·77	·89	·67	·69	·82
May	·84	·91	·78	·81	·87
June	·87	·91	·87	·83	·88
July	·90	·93	·87	·87	·92
August	·90	·93	·88	·86	·92
September	·87	·94	·81	·81	·90
October	·84	.....	·80	·78	·92
November	·84	·94	·77	·72	·93
December	·77	.....	·70	·65	·90

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	·80	·87	·77	·71	·84
February	·80	·86	·78	·74	·82
March	·90	·93	·87	·87	·94
April	·90	·92	·87	·88	·94
May	·89	·92	·85	·87	·92
June	·89	·91	·88	·88	·90
July	·92	·93	·91	·90	·93
August	·90	·91	·87	·89	·92
September	·88	·91	·87	·86	·89
October	·84	·85	·85	·82	·84
November	·73	·76	·73	·72	·71
December	·74	·77	·75	·71	·74

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.
January	·64	·87	·58	·36	·74
February	·66	·87	·62	·37	·77
March	·66	·87	·64	·34	·78
April	·62	·84	·50	·42	·72
May	·64	·82	·58	·43	·74
June	·75	.....	·69	·67	·82
July	·81	.....	·78	·78	·85
August	·86	.....	·81	·81	·89
September	·85	·92	·79	·78	·90
October	·81	·91	·74	·72	·89
November	·71	·88	·60	·53	·84
December	·73	·89	·65	·52	·86

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.
January	·80	·92	·76	·64	·87
February	·80	·93	·75	·66	·88
March	·78	·86	·71	·68	·88
April	·77	·84	·70	·70	·84
May	·78	·85	·72	·72	·84
June	·85	·89	·82	·81	·89
July	·86	·91	·83	·82	·88
August	·85	·89	·82	·80	·87
September	·83	·89	·80	·77	·84
October	·83	·95	·74	·75	·88
November	·71	·85	·64	·55	·81
December			Untrustworthy		

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.
January	·70	·85	·64	·52	·78
February	·70	·87	·64	·51	·80
March	·78	·92	·68	·65	·86
April	·79	·93	·69	·70	·85
May	·83	·92	·74	·78	·89
June	·83	·91	·77	·77	·87
July	·88	·94	·83	·84	·91
August	·88	·94	·83	·84	·91
September	·87	·95	·80	·80	·92
October	·84	·94	·78	·75	·90
November	·81	·94	·75	·69	·85
December	·78	·92	·74	·62	·84

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.
January	·72	·85	·68	·55	·80
February	·71	·85	·67	·52	·79
March	·71	·88	·70	·40	·81
April	·70	·87	·62	·50	·79
May	·74	·88	·71	·58	·81
June	·82	·92	·77	·72	·88
July	·87	·94	·83	·80	·91
August	·89	·95	·86	·85	·92
September	·87	·95	·81	·80	·91
October	·82	·92	·76	·73	·89
November	·74	·86	·67	·59	·82
December	·73	·85	·69	·57	·62

JESSORE.

	Mean.	4h.	10h.	16h.	22h.
January	·73	·93	·60	·51	·88
February	·68	·89	·58	·46	·81
March	·61	·82	·57	·32	·75
April	·65	·83	·57	·47	·73
May	·78	·90	·73	·66	·83
June	·83	·92	·76	·76	·88
July	·86	·95	·79	·80	·91
August	·87	·95	·79	·82	·93
September	·86	·95	·76	·81	·93
October	·83	·95	·74	·71	·93
November	·74	·93	·61	·55	·89
December	·75	·93	·63	·53	·90

DACCA.

	Mean,	4h.	10h.	16h.	22h.
January	74	86	71	60	81
February	70	85	66	52	78
March	71	91	66	46	81
April	73	91	65	56	81
May	84	95	78	78	89
June	85	93	78	78	90
July	87	94	83	82	91
August	88	94	85	80	92
September	87	94	81	80	92
October	84	95	75	74	93
November	74	89	65	57	85
December	74	90	67	57	82

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.
January	78	92	77	53	88
February	74	91	74	48	82
March	73	89	70	53	80
April	78	92	71	63	85
May	84	93	82	72	88
June	85	94	81	74	89
July	88	94	86	79	92
August	87	95	83	79	92
September	88	93	86	79	92
October	86	93	85	75	91
November	81	89	78	69	89
December	82	88	82	71	88

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.
January	57	72	57	34	65
February	44	55	39	32	50
March	32	43	25	24	34
April	32	42	29	23	36
May	36	50	31	23	41
June	64	77	59	51	68
July	85	92	83	77	87
August	87	94	84	80	88
September	83	90	81	76	84
October		Untrustworthy.			
November	60	69	53	50	67
December	55	69	49	39	62

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.
January	65	82	59	47	72
February	65	86	56	39	79
March	51	78	39	25	63
April	62	81	57	40	70
May	71	89	64	54	75
June	80	90	75	69	85
July	85	94	78	76	91
August	86	95	80	78	92
September	84	94	77	75	91
October	80	93	73	64	90
November	76	92	68	55	90
December ...	72	89	63	52	84

GYA.

	Mean.	4h.	10h.	16h.	22h.
January	65	81	60	45	74
February	49	66	41	31	58
March	27	40	21	15	32
April	32	49	28	16	35
May	35	50	31	21	39
June	54	70	47	39	61
July	77	87	72	65	83
August	83	91	78	77	88
September	79	88	74	70	84
October	63	78	57	48	70
November	56	76	48	37	64
December	56	74	51	35	63

PATNA.

	Mean.	4h.	10h.	16h.	22h.
January	67	69	67	60	73
February	65	72	62	54	71
March	53	67	45	34	64
April	51	68	45	34	57
May	55	72	50	36	61
June	68	79	64	53	74
July	77	83	73	69	81
August	78	83	76	72	82
September	78	84	75	72	83
October	67	81	58	54	75
November	57	73	44	42	70
December	61	69	55	49	69

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.
January	74	82	73	61	79
February	63	75	60	48	69
March	41	56	36	22	49
April	44	61	42	27	47
May	57	75	52	38	61
June	71	84	65	60	75
July	82	91	77	74	86
August	84	92	82	75	89
September	84	91	80	75	89
October	71	84	66	56	77
November	66	81	63	48	73
December	65	78	61	50	73

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.
January	71	79	57	67	81
February	67	76	55	64	73
March	65	77	53	58	74
April	73	84	64	64	82
May	82	89	79	72	86
June	88	95	82	82	94
July	88	94	79	85	94
August	91	96	85	85	97
September	90	95	84	87	95
October	80	86	74	74	87
November	71	76	60	67	81
December	67	75	52	61	80

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.
January	71	89	71	55	69
February	66	82	64	51	67
March	59	83	52	45	57
April	71	87	63	60	73
May	80	91	78	70	82
June	86	92	82	81	89
July	84	90	81	78	88
August	84	94	80	76	87
September	87	93	86	80	89
October	83	91	82	74	86
November	80	93	79	67	82
December	76	93	73	64	76

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.
January	71	78	55	70	79
February	63	70	49	58	75
March	57	61	50	53	64
April	62	66	56	57	67
May	78	80	74	77	82
June	83	88	80	79	85
July	89	92	87	85	91
August	88	92	84	86	92
September	89	93	88	86	91
October	89		84	87	92
November	74		61	74	85
December	77	80	61	79	86

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January	76	91	69	58	88
February	63	84	50	38	80
March	40	62	29	18	52
April	39	61	27	20	48
May	40	60	30	24	47
June	64	78	59	50	68
July	82	89	77	74	87
August	86	93	80	79	91
September	81	92	73	71	89
October	65	87	48	43	83
November	64	84	44	46	82
December	67	85	56	43	83

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January	75	87	73	57	85
February	62	80	60	39	70
March	50	76	39	25	62
April	43	66	32	23	52
May	38	57	31	21	45
June	58	71	56	43	63
July	83	92	78	74	90
August	86	94	84	75	92
September	83	93	76	73	90
October	66	89	53	37	85
November	59	81	44	34	77
December	68	85	61	45	81

TABLE XVII.—Monthly Mean Humidities of several Stations deduced from the Registers of 1868-71.

A.—MEANS OF FOUR OBSERVATIONS DAILY.

	Years.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
Akyab	2-4	78	76	75	77	81	86	88	86	86	84	80	77
Cuttack	4	69	67	65	67	69	77	82	82	83	77	68	67
False Point	4	79	80	81	84	84	83	84	84	82	78	69	73
Saugor Island	3-4	75	79	80	81	82	85	87	88	88	84	76	76
Calcutta	4	66	66	67	72	76	84	87	88	88	80	71	68
Chittagong	3-4	71	73	75	81	82	87	88	89	87	83	77	73
Hazareebaugh	3-4	51	41	39	38	45	72	87	85	84	66	51	51
Dacca	4	65	60	65	71	79	85	86	86	85	79	69	66
Silchar	2-3	79	75	74	76	84	88	89	90	89	86	83	81
Goalparah	3	73	65	60	68	82	88	87	86	88	83	78	75
Berhampore	3-4	67	59	53	63	70	83	86	85	85	77	71	70
Patna	3-4	62	54	44	42	53	66	83	83	83	74	66	62
Darjeeling	4	77	81	69	75	82	91	92	92	90	79	76	74
Benares	4-5	69	55	45	38	40	61	79	80	81	66	63	65
Roorkee	4	63	65	54	39	36	54	77	76	73	60	57	62

B.—MEANS OF TWO OBSERVATIONS DAILY.

Port Blair	4	71	71	67	68	81	82	83	82	83	80	73	70
Madras	4	64	60	59	59	53	53	56	59	62	67	71	65
Nagpore	3	44	36	32	24	24	53	74	68	71	50	48	47
Jubbulpore	3	42	35	29	21	22	47	62	64	66	54	44	43

Table XVIII.—Comparison of the mean humidities of each Month of 1872, with the averages of Table XVII.

A.—MEANS OF FOUR OBSERVATIONS DAILY.

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Year.
Akyab	—1	—2	+3	0	+3	+1	+2	+4	+1	0	+4	0	+1
Cuttack	—5	—1	+1	—5	—5	—2	—1	+4	+2	+4	+3	+6	0
False Point	+1	—0	+9	+6	+5	+6	+8	+6	+6	+6	+4	+1	+5
Saugor Island ...	+5	+1	—2	—4	—4	0	—1	—3	—5	—1	—5	?	?
Calcutta	+6	+5	+4	—2	—2	—2	0	+1	—1	+2	+3	+5	+2
Chittagong	—1	—3	+3	—2	+1	—4	0	—1	0	+1	+4	+5	0
Hazareebaugh ...	+6	+3	—7	—6	—9	—8	—2	+2	—1	?	+9	+4	?
Dacca	+9	+10	+6	+2	+5	0	+1	+2	+2	+5	+5	+8	+5
Silchar	—1	—1	—1	+2	0	—3	—1	—3	—1	0	—2	+1	—1
Goalparah	—2	+1	—1	+3	—2	—2	—3	—2	—1	0	+2	+1	—1
Berhampore	—2	+6	—2	—1	+1	—3	—1	+1	—1	+3	+5	+2	+1
Patna	+5	+9	+9	+9	+2	+2	—6	—5	—5	—7	—9	—1	0
Darjeeling	—6	—14	—4	—2	0	—3	—4	—1	0	+1	—5	—7	—4
Roorkee	+12	—3	—4	+4	+2	+4	+6	+10	+10	+6	+2	+6	+5
Benares	+7	+8	—5	+1	0	+3	+3	+6	0	—1	+1	+2	+2

B.—MEANS OF TWO OBSERVATIONS DAILY.

Port Blair	—7	—5	0	—2	—4	—3	—3	—2	—2	0	—2	?	?
Madras	—7	—1	—2	0	+3	+2	—3	+2	0	+1	+5	+5	0
Nagpore	—11	?	—16	—3	—6	—9	—4	+5	+1	?	?	?	?
Jubbulpore	—3	?	+2	+9	—4	—5	+4	+13	+3	?	?	?	?

At Dacca and False Point, especially the former, the air was more humid than usual in almost every month of the year, while the reverse held good at Port Blair and Darjeeling. At Cuttack, the first seven months were drier, the last five damper than usual; while at Patna the humidity of the first six months was above the average that of the last six below it. Taking the mean of all the stations enumerated in Table XVIII, January was a damper month than usual. The excess of humidity decreased in the February and March, and in April the mean of all the stations fell below the average, the deficit increasing up to June. A rapid rise in August brought the general-humidity above the average, and after a fall in September it increased again up to the end of the year, December being the dampest month (abnormally) in the whole year.

Serenity.

In the following tables are given the mean proportions of unclouded sky, as estimated at the regular hours of observation. A clear unclouded sky is designated by 10, an overcast sky as 0. Calcutta and False Point do not furnish these observations. The first is not subject to the Meteorological Department, and the position of the observatory (surrounded by high buildings) is unfavourable for sky observations. At the second it has not been thought advisable to require them. Day observations only have been recorded at Port Blair and Darjeeling. Table XX gives the averages of the observations of the last four years for all stations which have furnished complete registers; and Table XXI gives the differences between these values and those of 1872, to the first place of decimals.

Table XIX.—Mean Serenity of 1872.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.
January	6·48		6·71	6·26	
February	8·25		8·21	8·29	
March	7·95		8·29	7·61	
April	6·42		6·84	6·00	
May	3·35		3·00	3·71	
June	3·27		3·24	3·30	
July	3·35		3·16	3·55	
August	3·01		2·74	3·29	
September	3·02		2·74	3·30	
October	4·19		4·16	4·22	
November	5·45		5·90	5·00	
December	6·35		5·74	6·97	

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.
January	8·72	8·84	8·27	8·87	8·92
February	8·62	8·88	7·88	8·99	8·72
March	8·81	8·84	9·32	8·48	8·61
April	7·36	6·92	8·03	7·20	7·28
May	6·30	6·76	6·79	6·60	5·06
June	3·99	3·90	3·25	4·42	4·38
July	3·67	3·97	2·94	3·22	4·56
August	3·37	3·74	3·89	3·13	2·73
September	3·87	3·30	2·67	3·70	5·83
October	4·17	4·43	3·47	4·10	4·69
November	6·98	7·02	6·66	6·82	7·42
December	7·93	8·00	7·26	8·27	8·19

AKYAB.

	Mean.	4h.	10h.	16h.	22h.
January	8·77	9·45	8·55	8·87	8·19
February	9·75	9·86	9·76	9·65	9·72
March	8·79	8·97	7·74	9·26	9·19
April	7·36	7·37	6·87	7·23	7·97
May	4·41	4·58	4·10	4·23	4·74
June	2·72	2·60	2·03	2·70	3·57
July	1·50	0·97	1·52	1·90	1·60
August	1·63	0·67	1·77	2·32	1·77
September	3·81	3·29	3·27	3·62	5·07
October	5·39	.....	5·32	5·16	5·68
November	7·92	8·54	7·00	7·20	8·93
December	8·75	8·97	8·42	8·29	9·32

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.
January	9·23	9·74	8 74	8·84	9·61
February	8·29	8·86	7·41	7·58	9·31
March	9·15	9·55	9·19	8·74	9·13
April	7·45	8·83	8·33	5·07	7·56
May	7·94	7·42	8·84	8·06	7·45
June	5·06	.....	4·77	5·27	5·13
July	3·85	3·74	3·97	3·06	4·64
August	4·59	.....	3·97	4·00	5·81
September	5·78	6·33	4·90	4·63	7·27
October	6·86	7·68	6·32	5·68	7·77
November	8·71	9·13	8·80	8·13	8·76
December	8·77	8·48	8·39	8·71	9·48

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.
January	8·82	8·84	8·10	8·90	9·81
February	8·09	8·21	6·69	8·51	8·93
March	5·59	6·74	4·45	4·64	6·52
April	5·09	6·27	4·37	3·90	5·83
May	3·66	5·42	2·19	3·00	4·03
June	2·24	3·50	1·30	1·07	3·10
July	2·00	2·03	1·23	1·10	3·65
August	2·46	2·44	2·19	1·55	3·64
September	3·56	3·83	2·50	2·47	5·43
October	4·93	5·71	4·26	3·71	6·03
November	8·36	9·18	7·90	7·63	8·73
December		Erroneous.			

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.
January	9·90	10·00	10·00	9·71	9·90
February	9·36	9·31	9·31	9·27	9·55
March	7·93	8·64	6·68	7·87	8·51
April	5·71	6·33	5·57	5·10	5·83
May	5·75	6·42	5·26	5·51	5·81
June	3·60	4·50	3·50	2·63	3·77
July	2·15	2·94	2·10	1·23	2·35
August	3·11	2·97	3·10	2·48	3·87
September	3·77	3·33	3·90	3·67	4·20
October	5·42	4·90	4·39	5·58	6·81
November	8·80	8·85	7·97	8·93	9·43
December	8·91	8·00	8·74	9·23	9·68

JESSORE.

	Mean.	4h.	10h.	16h.	22h.
January	9·10	9·13	8·90	9·13	9·23
February	8·21	7·17	8·34	8·31	9·00
March	8·31	7·06	9·06	8·52	8·58
April	6·84	6·80	6·90	6·03	7·63
May	5·88	6·32	5·61	5·03	6·55
June	4·48	4·70	4·23	3·93	5·07
July	3·35	3·93	2·71	2·52	4·23
August	4·07	4·35	3·23	3·10	5·61
September	4·77	5·07	4·30	3·73	6·00
October	5·90	6·55	5·52	5·03	6·52
November	9·17	9·17	9·33	9·03	9·17
December	8·42	8·03	8·35	8·39	8·90

DACCA.

	Mean.	4h.	10h.	16h.	22h.
January	9·29	9·35	8·90	9·35	9·55
February	7·86	8·07	7·59	8·41	7·38
March	7·00	4·19	7·26	8·48	8·06
April	4·98	5·00	6·13	4·10	4·67
May	4·36	3·48	4·42	5·16	4·39
June	2·23	1·67	3·50	2·40	1·33
July	1·77	1·52	2·00	2·03	1·55
August	3·02	3·53	1·61	2·77	4·16
September	3·55	3·96	2·13	2·90	5·23
October	5·64	6·74	4·55	4·42	6·84
November	8·94	9·03	9·03	8·27	9·43
December	9·13	9·03	8·97	9·00	9·52

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.
January	8·27	7·32	8·64	8·94	8·19
February	8·00	8·48	7·48	7·69	8·34
March	7·62	7·19	8·42	7·87	7·00
April	6·11	6·67	6·50	4·93	6·33
May	6·26	6·45	5·68	5·74	7·16
June	5·68	6·83	5·40	5·73	4·77
July	2·69	2·68	2·39	3·84	1·84
August	3·35	3·16	2·90	4·23	3·10
September	3·06	2·90	2·60	3·13	3·63
October	4·02	2·97	3·61	5·35	4·13
November	7·02	6·48	6·17	7·17	8·26
December	7·04	4·94	5·77	8·23	9·23

HAZAREEBAUGH.

	Mean.	4h.	10h.	16h.	22h.
January	7·69	7·16	7·55	7·68	8·39
February	8·22	7·93	8·34	8·21	8·38
March	8·38	8·71	8·35	7·93	8 52
April	7·13	7·00	7·67	6·67	7·20
May	7·60	7·10	8·39	7·23	7·68
June	4·85	4·63	6·67	3·57	4·53
July	2·32	2·40	2·42	2·48	1·97
August	4·29	3·53	4·42	4·64	4·58
September	5·95	5·97	5·73	6·33	5·77
October			Erroneous.		
November	8·76	8·86	8·70	8·27	9·23
December	8·34	8·18	8·10	8·03	9·03

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.
January	8·04	8·45	7·48	7·61	·861
February	8·35	8·31	8·21	8·62	8·28
March	8·66	9·42	8·77	7·74	8·71
April	6·63	6·97	6·73	5·70	7·13
May	4·62	4·29	5·97	3·64	4·58
June	1·48	0·70	2·33	1·47	1·40
July	1·36	1·23	1·07	1·23	1·90
August	1·07	1·42	0·68	0·90	1·29
September	1·85	1·40	2·20	1·83	1·97
October	5·06	5·45	4·45	4·94	5·42
November	8·50	9·09	8·63	7·50	8·80
December	8·63	8·74	8·06	8·61	9·10

GYA.

	Mean.	4h.	10h.	16h.	22h.
January	7·89	7·71	7·23	7·81	8·84
February	8·43	8·83	8·34	7·79	8·76
March	8·44	8·71	8·39	7·97	8·71
April	7·77	7 13	8·23	7·53	8·20
May	9·08	9·00	9·29	8·68	9·35
June	5·37	5·90	5·30	4·10	6·17
July	1·88	2·26	1 93	1·45	1·87
August	2·01	1·58	1·84	1·16	3·45
September	3·45	3·93	3·10	2·87	3·90
October	7·39	7·90	7·19	6·58	7·90
November	8·96	8·70	9·13	8·33	9·70
December	8·93	9·29	8·90	8·48	9·06

PATNA.

	Mean.	4h.	10h.	16h.	22h.
January	6·28	7·03	5·45	5 ·52	7·13
February	7·79	8 34	7·52	7·21	8·10
March	7·82	8·32	7·48	7·42	8·06
April	7·42	7·80	7·33	7·00	7·57
May	7·19	7·19	6·55	7·39	7·61
June	4·93	4·67	4·40	5·10	5·57
July	2·64	2·39	2·58	2·71	2·87
August	1·65	1·55	1·39	1·74	1·90
September	2·78	3·03	2·43	2·57	3·10
October	6·29	6·29	5·94	6·32	6·61
November	9·17	9·43	9·37	9·27	9·83
December	9·52	9·52	9·52	9·48	9·58

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.
January	7·39	7·35	6·71	7·39	8·10
February	8·10	7·52	8·17	8·27	8·45
March	8·32	8·16	8·42	8·23	8·48
April	7·01	6·27	7·00	7·60	7·17
May	6·95	6·13	6·61	7·45	7·61
June	3·20	2·83	2·57	3·90	3·50
July	1·66	1·71	0·97	1·29	2·68
August	1·94	1·89	0·71	1·94	3·23
September	2·93	5·79	1·83	2·43	3·67
October	6·65	6·81	6·58	5·97	7·26
November	8·95	8·93	·910	8·60	9·17
December	8·29	8·33	8·22	8·26	8·35

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.
January	5·55		6·55	4·55	
February	5·31		6·59	4·03	
March	5·54		6·39	4·48	
April	4·95		4·70	5·20	
May	3·53		3·13	3·94	
June	1·88		1·83	1·93	
July	2·29		2·42	2·16	
August	2·26		2·16	2·35	
September	2·10		2·40	1·80	
October	4·61		4·90	4·32	
November	6·05		6·83	5·27	
December	5·60		6·58	4·61	

GOALPARAH.

	Mean.	4h.	10h.	16h.	22h.
January	5·34	4·58	5·81	4·94	6·03
February	5·08	4·21	4·96	5·52	5·62
March	5·69	5·26	6·13	5·29	6·06
April	4·82	3·80	4·07	5·70	5·73
May	2·97	1·35	3·10	3·93	3·48
June	1·69	0·87	2·00	2·60	1·30
July	2·04	1·23	2·58	2·97	1·39
August	2·09	1·00	2·26	3·16	1·94
September	2·25	1·00	2·43	3·53	2·03
October	4·40	3·32	4·55	5·68	4·06
November	6·32	6·13	5·67	6·43	7·03
December	5·47	3·58	5·70	6·29	6·32

SHILLONG.

	Mean.	4h.	10h.	16h.	22h.
January	7·99	8·81	8·74	6·45	7·97
February	6·70	7·14	7·72	5·14	6·79
March	7·03	8·58	7·48	4·64	7·42
April	4·86	5·77	5·80	3·63	4·23
May	3·62	3·52	4·13	2·94	3·90
June	2·19	1·57	2·40	1·90	2·90
July	0·80	0·35	0·81	0·77	1·26
August	0·82	0·19	1·10	0·87	1·13
September	1·17	0·70	1·53	0 80	1·63
October	3·07	3·83	3·19	1·55	3·71
November	6·79	.....	9·03	3·50	7·83
December	6·74	8·25	8·84	2 94	6·93

BENARES.

	Mean.	4h.	10h.	16h.	22h.
January	6·11	6·06	5·58	5·94	6·84
February	7·86	7·00	7·55	8·10	8·79
March	7·84	7·89	7·55	7·10	8·83
April	7·42	7·83	7·27	7·07	7·50
May	7·95	8·19	7·84	7·16	8·61
June	4·13	3 89	3·17	3·80	5·67
July	2·43	2·14	2·32	2·35	2·90
August	2·13	2·00	2·10	1·84	2·57
September	3·62	4·13	3·27	3·67	3·43
October	8·51	8·50	8·36	8·32	8·88
November	9·15	8·93	9·10	9·10	9·17
December	8·44	8·72	8·45	7·93	8·64

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.
January	5·73	6·32	5·13	5·29	6·16
February	6·48	6·24	6·00	6·21	7·48
March	8·35	9·52	7·68	7·03	9·19
April	7·55	8·93	6·30	6·17	8·80
May	8·31	8·55	8·35	8·45	7·87
June	6·91	6·20	6·40	7·17	7·87
July	3·24	2 64	2·55	2·52	5·26
August	3·36	3·03	1·97	3·29	5·16
September	5·80	5·43	6·13	5·57	6·07
October	9·77	9·77	9·68	9·90	9·74
November	9·67	9·73	9·30	9·67	10·00
December	8·72	9·03	8·61	8·19	9·03

Table XX.—Average Estimated Serenity deduced from the Registers of 1869-72.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair ...	4	6·40	6·80	7·70	5·86	3·72	3·22	3·31	3·46	3·38	4·89	5·80	6·50	5·09
Cuttack ...	4	8·04	8·67	7·58	6·29	6·40	3·37	2·46	3·62	4·21	6·20	8·54	8·91	6·19
Saugor Island ...	4	8·27	8·32	6·33	5·45	4·04	2·65	2·29	2·30	3·64	5·72	8·36	9·12	5·58
Chittagong ...	4	9·14	8·85	7·79	6·32	5·62	3·62	2·93	3·00	3·85	6·13	8·79	9·35	6·28
Jessore ...	4	8·61	8·57	7·68	7·00	5·90	3·64	3·42	4·05	4·76	6·52	9·04	9·22	6·53
Dacca ...	4	8·40	8·02	7·14	6·11	4·65	2·55	1·96	2·41	2·89	6·01	8·79	9·30	5·69
Hazareebaugh ...	4	6·96	8·12	6·89	6·75	6·96	3·11	1·57	2·97	2·85	6·39	8·36	8·03	5·75
Berhampore ...	4	7·88	8·71	7·43	6·52	5·33	2·08	1·88	1·89	2·17	5·95	8·48	8·82	5·59
Patna ...	4	7·41	8·20	7·18	7·49	7·50	4·12	2·29	1·99	2·72	6·28	8·99	8·52	6·06
Monghyr ...	4	7·93	8·59	8·01	7·84	7·30	3·60	2·66	2·72	3·16	6·99	9·06	8·44	6·36
Darjeeling ...	4	4·88	4·32	4·94	4·66	2·58	1·41	1·53	1·42	1·67	4·22	4·67	5·27	3·46
Goalparah ...	4	6·35	6·93	6·60	5·11	3·20	1·58	2·22	2·36	2·65	4·66	6·58	6·51	4·56
Roorkee ...	4	6·90	6·92	6·54	7·67	8·59	6·05	3·08	3·33	5·06	9·31	9·25	7·91	6·72

Table XXI.—Comparison of the mean serenity of 1872, with the averages of Table XX.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair ...	+0·1	+2·3	+0·3	+0·6	—0·4	0	0	—0·5	—0·4	—0·7	—0·4	—0·2	+0·7
Cuttack ...	+0·2	—0·4	+1·6	+1·2	+1·5	+1·7	+1·4	+1·0	+1·6	+0·7	+0·2	—0·1	+0·9
Saugor Island ...	+0·6	—0·2	—0·7	—0·4	—0·4	—0·4	—0·3	—0·3	—0·1	—0·8	0	?	?
Chittagong ...	+0·8	+0·5	—0·1	—0·6	+0·1	0	—0·8	+0·1	—0·1	—0·7	0	—0·4	—0·1
Jessore ...	+0·5	—0·4	+0·6	—0·2	0	+0·8	—0·1	0	0	—0·6	+0·1	—0·8	0
Dacca ...	+0·9	—0·2	—0·1	—1·1	—0·3	—0·3	—0·2	+0·6	+0·8	—0·4	+0·2	—0·2	0
Hazareebaugh ...	+0·7	+0·1	+1·5	+0·4	+0·6	+1·7	+0·5	+1·3	+3·1	?	+0·4	+0·3	?
Berhampore ...	+0·2	—0·4	+1·2	+0·1	—0·7	—0·6	—0·5	—0·8	—0·3	—0·9	0	—0·2	—0·2
Patna ...	—1·1	—0·4	+0·6	—0·1	—0·3	+0·8	+0·4	—0·3	+0·1	0	+0·5	+1·0	+0·1
Monghyr ...	—0·5	—0·5	+0·3	—0·8	—0·4	—0·4	—1·0	—0·8	—0·2	—0·3	—0·1	—0·2	—0·4
Darjeeling ...	+0·7	+1·0	+0·6	+0·3	+1·0	+0·5	+0·8	+0·8	+0·4	+0·4	+1·4	+0·3	+0·7
Goalparah ...	—1·0	—1·9	—0·9	—0·3	—0·2	+0·1	—0·2	—0·3	—0·4	—0·1	—0·3	—1·0	—0·5
Roorkee ...	—1·2	—0·4	+1·8	—0·1	—0·3	+0·9	+0·2	0	+0·7	+0·5	+0·4	+0·8	+0·3

Table XXI brings to view some notable peculiarities in the comparative serenity of the atmosphere in 1872. At the two most elevated stations, Hazareebaugh and Darjeeling, the sky was unusually free from cloud in every month of the year. At Hazareebaugh this was especially the case in March, June, August, and, above, all September. At Darjeeling, always a cloudy station, the serenity was 10 per cent. greater than usual in February and May, and about 14 per cent. greater in November. At Cuttack, again, the sky was unusually clear in every month, except February and December; and from March to October the excess of clear sky averaged from 7 to 17 per cent.

On the other hand, at Saugor Island, Monghyr, and Goalparah, an excess of cloud is recorded in almost every month of the year. At Port Blair, the first four months were clearer than usual, and the remainder of the year of average serenity, or rather more cloudy.

On the whole, January and March were unusually bright and cloudless; February, April, October, and December, rather the reverse.

Rainfall.

Complete returns of the rainfall of the year are given for 163 stations, and incomplete returns for 14 stations, making a total of 177; of these, two are in Madras, seven in the North-Western Provinces, one in Arakan, one in the Andamans, four in Ceylon, and three in the Central Provinces. The remainder are in Bengal.

The classification of the stations differs somewhat from that followed in previous reports, and, as far as regards Bengal, is that laid down by Government to be adopted in all official reports. It recognizes the fiscal-rather than the physical divisions; but there is a general accordance between the old and new classification, which may be represented as follows:—

The Western Districts of Bengal include the eastern portion of the *western circuit* of former reports;

The Central Districts correspond to the western half of the *central circuit*, and the greater part of the *northern circuit*;

The Eastern Districts comprehend the remainder of the *central circuit*, with nearly the whole of the *eastern*;

Behar corresponds to the *north-western circuit* (excluding stations in the North-Western Provinces), together with the northern half of the *western circuit* and a part of the *northern*;

Orissa is identical with the *south-western circuit*;

Chota Nagpore constitutes all the southern portion of the *western circuit*; and finally

Assam and the adjacent Hills is a division exactly coterminous with the old *north-eastern circuit*.

The instruments in use at all the Bengal stations (with the exception of seven following) are Symon's gauges, five inches in diameter, the mouth of which is elevated about one foot above the ground. At False Point, Cuttack, Dacca, Darjeeling, Chittagong, and Akyab, a float gauge, three feet high, has been used; but the rainfall has been measured in a graduated measure glass.

In Table XXII is given the total rainfall in each month of 1872 and that of the year. In Table XXIII the number of days on which a measurable quantity of rain fell, the day being reckoned from 18h to 18h; and in Table XXIV a comparison is instituted between the average annual rainfall of 57 stations and that of 1872. The averages in this table are taken from the more extensive table given in a report on the winds of Northern India lately submitted to Government.

Table XXII.—Rainfall in inches in 1872.

Division.	Districts.	Stations.	Elevation in feet.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
	BENGAL.															
	Western Districts.															
Burdwan.	Burdwan ...	Burdwan ...	97	.....	0·60	.....	2·02	2·51	7·27	6·66	8·33	5·52	9·44	.....	0·12	42·47
		Cutwa ...	...	0·12	1·78	0·01	0·34	2·58	13·20	9·20	12·79	7·44	6·10	0·15	0·05	53·76
		Culna ...	...	0·02	0·52	.....	0·38	3·72	10·61	7·43	4·96	8·64	8·82	.....	1·20	46·30
		Bood-Bood ...	...	.....	1·10	.....	0·51	2·70	8·12	6·09	10·90	7·48	8·31	.....	0·20	45·41
		Raneegunge ...	326	0·15	1·24	.....	1·28	0·53	8·55	11·34	9·14	7·37	8·50	1·11	0·03	49·24
		Jehanabad ...	...	.....	2·72	.....	2·87	3·10	14·28	8·12	11·64	12·67	12·86	.....	.....	68·26
	Bancoorah ...	Bancoorah ...	...	.....	0·96	.....	2·14	2·70	5·60	5·34	8·01	8·85	10·81	.....	.....	44·41
	Beerbhoom ...	Sooree ...	157	0·07	2·48	.....	1·62	5·09	3·28	12·74	10·37	5·77	9·42	0·10	.....	50·94
	Midnapore ...	Midnapore ...	108	.....	0·12	0·82	.....	1·88	11·04	8·97	12·92	8·56	11·26	0·02	.....	55·59
		Tumlook ...	...	0·13	2·40	.....	2·22	3·55	9·51	4·02	6·46	9·85	8·06	.....	.....	46·20
		Gurbetta ...	...	.....	1·54	.....	1·92	1·76	5·89	7·71	10·72	8·13	6·62	.....	.....	44·29
		Contai ...	43	1·00	0·50	.....	0·50	2·00	13·43	8·27	7·45	2·97	20·10	.....	.....	56·22
	Hooghly ...	Hooghly ...	30	0·50	3·70	.....	2·18	2·40	7·99	9·08	7·62	8·38	8·16	.....	1·00	51·01
		Serampore ...	...	0·22	2·50	0·06	5·07	3·97	8·17	8·94	11·58	5·78	9·13	.....	0·28	55·70
	Howrah ...	Howrah ...	18	.....	2·28	0·28	2·79	1·71	9·99	4·92	9·82	8·26	7·51	0·02	0·11	47·69
	Central Districts.															
Presidency.	24-Pergunnahs ...	Saugor Island ...	6	.....	0·15	0·09	0·39	2·43	14·14	7·13	9·34	5·59	17·58	0·05	0·22	57·11
		Calcutta ...	18	0·22	2·82	0·21	1·83	1·99	9·45	5·55	11·52	8·42	8·93	0·02	0·09	51·05

Table XXII.—Rainfall in inches in 1872.—(Continued.)

Division.	Districts.	Stations.	Elevation in feet.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
Presidency.—(Continued.)	24-Pergunnahs	Alipore	16	.....	2·28	0·21	1·47	2·57	8·15	6·96	10·26	7·37	9·40	.....	0·12	48·79
		Busseerhaut	...	.....	3·02	.....	2·79	2·79	9·98	11·91	11·65	9·71	7·09	.....	0·18	59·12
		Baraset	20	0·31	2·00	0·50	1·96	3·23	9·78	6 69	10·71	7·31	7·66	.....	0·05	50·20
		Diamond Harbour	10	.....	1·83	0·08	0·11	1·69	15·14	9·78	8·99	7·12	11 28	.....	0 05	56·07
		Barripore	...	.....	1·51	.....	0·44	4·44	7·90	6·43	16·40	7·80	6·33	.....	0·04	51·29
		Satkherah	...	0·16	2·39	0·04	3·43	5·35	8·33	8·89	9·20	12·08	5·74	.....	2·18	57·69
		Barrackpore	20	0·70	2·33	0·08	4·36	4·38	10·38	10·42	13·12	5·42	7·12	.....	0·38	58·69
		Dum-Dum	20	0·10	2·18	0·20	2·77	5·90	13·55	8·47	10·34	9·56	8·34	.....	0·23	61·64
	Nuddea	Kishnaghur	...	0·08	1·75	.....	0·42	4·90	9·53	6·69	5·62	7·27	5·73	0·08	.....	42·07
		Bongong	...	.....	1·21	.....	0·99	3 68	7·53	8·38	8·54	10·75	11·39	.....	1·60	54·07
		Meharpore	...	0·08	1·32	0·0	2·27	5·30	10·44	15·48	5·08	6·43	5·01	.....	.....	51·44
		Choadangah	...	0·10	1·20	.....	1·00	8 00	7·60	7·60	7·75	3·26?	2·55?	.....	... ..	?
		Kooshteah	...	.....	1 50	.....	0·77	4·14	10·70	7·81	6·80	7·85	6·89	.....	.....	46 46
		Ranaghat	...	.....	1·77	.....	0·77	4·79	12·83	7·56	8·17	6·71	6·03	.....	0·50	49·13
	Jessore	Jessore	20	0·09	2·41	0·19	10·13	6·57	12·32	9·59	8·74	12·56	6·67	.....	0·14	69·41
		Nurrail	...	0·06	2·95	.. ...	6·10	10·93	6·10	9·90	10·58	7·56	5·85	.....	0·55	60·58
		Khoolneah	...	.....	.....	1·20	3·58	6·20	9·55	11·93	6·86	9·40	5·80	.....	0·20	54·72
		Jenadah	...	0·20	1·65	.....	3·14	8·09	13·10	8·05	14·44	12·06	8·31	.....	0·50	69·54
		Bagirhaut	...	.....	1·90	0·75	3·51	3·25	14·71	11·33	6·32	6·84	6·23	.....	0·12	54·96
		Magoorah	...	.....	0·06	.....	4·24	4·65	9·21	8·40	5·83	11·79	8·22	.....	.....	52·40

Rajshahye.	Moorshedabad	Berhampore	...	63	0·04	2·81	0·14	0·63	3·30	13·66	9·00	9·48	14·37	12·19	.....	.....	65·62
		Jamoeakandi	...	...	0·02	1·32	... ..	0·43	1·94	6·13	9·57	9·75	12·40	8·72	.....	... ..	50·28
		Moorshedabad City	...	...	0·11	2·61	0·36	0·63	3·33	10·90	8·25	8·49	14·54	8·47	.....	.....	57·69
		Jungipore	...	...	0·09	3·04	0·04	2·08	1·28	10·28	13·33	9·25	6·77	9·68	.....	0·01	55·85
		Azimgunge	...	...	?	2·63	0·10	1·10	1·95	8·22	10·11	7·54	6·24	10·40	.....	.....	?
	Dinagepore	Dinagepore	...	...	0·95	0·87	0·03	.. ...	4·00	14·02	17·66	16·73	10·92	10·61	.....	.....	75·79
	Maldah	Maldah	...	160	0·09	1·34	0·02	0·49	2·81	11·84	14·43	5·69	7·72	8·08	.....	.....	52·51
	Rajshahye	Beauleah	...	110	.....	2·37	0·06	1·00	2·71	6·74	10·37	4·94	15·48	10·41	.....	.....	54·08
		Nattore	...	...	.....	2·40	.....	0·39	6·29	7·36	7·61	6·76	6·31	9·69	.....	.....	46·81
	Rungpore	Rungpore	...	...	.....	0·10	0·61	1·73	10·89	16·49	16·56	13·54	17·64	8·69	.....	.....	86·25
		Bhowanigunge	...	...	.....	.....	.....	3·40	4·23	15·57	25·78	5·49	18·23	6·87	.....	.....	79·57
		Tilàlya	...	...	1·28	0·10	.....	2·39	7·22	19·08	27·89	41·48	22·57	6·16	.....	.....	128·17
	Bograh	Bograh	...	...	.....	1·12	.....	0·72	12·19	11·43	16·13	5·95	13·47	5·87	... ..	.....	66·88
	Pubna	Pubna	...	...	.....	2·08	0·14	2·53	8·04	10·85	6·42	8·94	12·39	7·99	.....	.....	59·38
		Serajgunge	...	...	.....	2·35	...	3·67	5·05	8·84	16·44	5·81	11·99	4·07	.....	.....	58·22
Cooch Behar.	Darjeeling	Darjeeling	...	6952	0·36	0·50	1·14	4·36	3·70	20·54	30·57	21·21	14·52	10·56	.....	.....	107·46
		Rungbee	...	5000	1·20	...	1·60	5·63	8·37	30·33	?	?	?	?	?	?	?
	Julpigoree	Julpigoree	...	...	0·96	...	0·65	6·83	11·03	23·76	23·80	26·98	22·98	8·98	0·03	.....	126·00
		Fallacotta	...	...	?	?	?	?	?	?	?	18·95?	26·15	7·45	.....	.....	?
		Bodah	...	...	2·00	0·10	...	0·88	5·57	0·34	5·55	17·78	42·55	10·63	.....	.....	85·40
	Cooch Behar Tributary State	Cooch Behar	...	...	1·20	...	0·52	8·29	11·46	43·20	16·11	27·26	18·68	6·57	.....	.....	133·29
	Bhutan Dooars	Buxa	...	1800	0·98	0·97	0·50	7·75	14·88	45·01	39·06	38·21	37·53	9·62	0·28	0·04	194·83

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Table XXII.—Rainfall in inches, in 1872.—(Continued.)

Division.	District.	Stations.	Elevation in feet.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
	Eastern Districts.															
Dacca.	Dacca ...	Dacca ...	22	0·05	0·70	0·50	6·40	9·00	8·25	14·00	9·30	12·00	4·20	.....	.....	64·40
		Moonshegunge ...	...	?	?	?	?	?	7·30?	17·75	9·40	9 20	3·67	.....	0·28	?
		Manickgunge ...	...	?	?	?	?	?	?	9·40?	7·30	5·13	5·15	.....	.....	?
	Furreedpore ...	Furreedpore ...	...	...	0·68	...	2·31	8·73	2·91	13·66	7·82	9·74	7·42	.....	0·08	53·35
		Goalundo ...	...	...	2·06	...	1·79	7·17	9·72	11·59	8·89	8·17	4·98	.....	.....	54·37
	Backergunge ...	Burrisaul ...	...	0·37	0·96	0·86	5·26	10·41	15·96	14·43	11·37	17·41	5·44	0·11	0·56	83·14
		Perozepore ...	...	0·37	2·89	0·45	1·84	5·17	12·73	13·52	10·86	8 84	5·73	.....	.....	62·40
		Madaripore ...	...	0·70	2·67	0·90	6·45	14·35	12·02	14·99	8·77	8·10	7·27	.....	0 10	76·32
		Patuakhally ...	...	?	?	?	?	4·09?	14·14	24·39	25·99	11 88	11·54	.....	.....	?
		Dowlatkhan ...	...	...	1·65	0·15	4·05	7·77	13·12	19·30	14·40	11 82	4·01	0·22	.....	76·49
	Mymensing ...	Mymensing ...	...	...	0·86	...	4 85	6·58	16·66	15·56	15·65	22 31	3·89	.....	.....	86·36
		Jamalpore ...	...	...	2·25	...	2 30	5·00	13·43	21·40	13·40	18 47	2 80	.....	.....	79·05
		Atteah ...	...	0·02	1·22	...	5·33	3·60	8·86	10·90	4·70	15·60	5·05	.....	.....	55·08
		Kishoregunge ...	...	...	1·09	1·44	5·66	15·05	12·17	22 05	10·85	24 44	3·15	.....	.....	95·90
	Sylhet ...	Sylhet ...	...	0·16	0·41	6·09	21·12	22·15	48·54	37·13	17·22	37 56	7·25	0·07	.....	197·70
	Cachar ...	Silchar ...	73	0·67	1·28	10·72	14·67	15·89	13·67	19·92	17·53	17·56	12·38	0·04	0·11	124·44
		Hylakandi ...	...	0 57	1·20	5·98	18·65	13·69	19·99	19·55	14 00	13·73	8·13	.....	.....	115·49
		Koyah ...	..	0·47	0·73	3·72	25·31	22·95	15·43	17·88	22 56	12·60	8·07	.....	.....	129·72

CHITTAGONG.	Chittagong ...	Chittagong ...	108	0·44	1·14	.....	5·11	4 96	10·80	30·80	15 59	14 19	4·74	.....	0·76	88·53
		Cox's Bazar ...	...	0·40	0·65	0·06	1·83	14·91	29·73	31·63	28·69	16·26	13·87	.....	1·65	139·68
	Noakhally ...	Noakhally ...	...	0·59	0·14	0·44	5·86	14·44	16·22	22·04	23·35	20·71	5·61	0·63	0·07	110·10
	Tipperah ...	Comillah ...	...	0·26	1·55	2·15	6·24	7·58	4·69	25·76	14·61	9·10	9 51	0·10	0·26	81·81
		Brahmanbariah ...	...	0·87	0·59	0·25	3·47	12·55	4·30	13·85	6·06	16·95	5·12	.....	0·12	64·13
	Chittagong Hill Tracts	Rangamatee Hill ...	...	0·50	0 62	0·63	5·79	13·50	10·79	31·79	15·65	10·14	12·43	.....	0·32	102·16
	Hill Tipperah ...	Hill Tipperah ...	...	?	?	?	?	?	?	?	4·40?	9·66	7·98	.....	0·45	?
	Arakan ...	Akyab	10	0·17	.....	.....	0·31	15·77	47·51	45·27	38·01	16 47	16·60	0·03	0·25	180·39
	Andamans ...	Port Blair ...	218	0·08	0·51	.....	0·75	11·12	17·14	21·38	20·27	15·64	11·03	5·10	.....	103·02
	BEHAR.															
PATNA.	Patna ...	Patna	179	2·02	0·85	0·02	.....	1 16	4·83	8·15	5·54	7·07	1·53	.....	.....	31·17
		Behar	...	1·60	1·06	.....	0·54	1·67	3·63	13·07	10·50	5·16	2·87	.....	.....	39·50
		Barh	...	1·68	0·59	.....	0·54	2·33	2·81	10·09	5·48	4·44	2 95	.....	.....	30·91
		Dinapore ...	...	2·46	0·29	.....	0·11	0·40	3·76	7·09	2·74	8·49	1·01	.....	.....	26·35
		Dehree	362	0·05	1·80	.....	0·15	0·25	3·22	10·33	8·72	5·86	0·51	.....	.....	30·89
	Gya	Gya	336	0·43	1·81	.....	0·75	0·15	1·64	10·67	9·82	5·48	1 38	.....	.....	32·13
		Nowadah ...	...	.....	1·51	0·40	0·79	1·92	2·55	10·42	10·32	7·66	1·22	.....	.....	36·79
		Arungabad ...	...	2·14	1·42	.....	0·12	0·05	4·19	12·90	11 23	5·29	0·53	.....	.....	37·87
		Sherghotty ...	...	0·10	1·10	.....	1·67	3 00	1·50	10·55	12·99	?	?	?	?	?
	Shahabad ...	Arrah	191	2·22	0·80	0·12	0·10	0·80	4·37	13·08	4·39	9·10	0·55	.....	.....	35·53
		Sasseram ...	...	0·64	1·22	0·05	0·15	0·46	4·24	9·70	8·29	5·90	0·45	.....	0·06	31·16
		Buxar ...	...	2·56	0·30	0·35	.....	0·20	4·25	10·80	4·95	10·42	0·05	.....	.....	33·88
		Bhubooah ...	...	1·40	0 86	.....	0·23	1·11	5 23	13·41	10·56	5·10	0·10	.....	.....	38·00

Table XXII.—Rainfall in inches, in 1872.—(Contnued.)

Division.	District.	Stations.	Elevation in feet.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
Patna.	Tirhoot ...	Mozufferpore ...	...	2·10	0·20	0·20	0·32	4·82	3·70	16 70	9·63	11·20	1·70	... ...	.....	50·57
		Durbhangah ...	...	0·96	0·16	0·04	.....	0·57	3·05	18·35	7·06	8·64	3 30	.....	.....	41·13
		Hajeepore ...	...	2 07	1·02	0·04	0·19	1·27	5·73	7·32	7·47	7·26	2·53	.....	.....	34·90
		Madhubani ...	...	2·42	0·50	.....	0·20	3·15	9·81	12·84	6·04	12·59	4·57	.....	.....	52·12
		Seetamaree ...	...	0·95	0·30	.....	3 70	1·20	16·00	14·20	7·10	10·43	1·20	.....	.....	55·08
		Tajpore ...	...	3·40	0·12	0·10	0·10	1·95	8·22	10·45	7·40	9·02	2·45	.....	0·12	43·33
	Sarun... ...	Chuprah ...	182	2·30	0·20	0·37	.....	1·31	3·21	11·44	7·00	12·17	0·48	.....	.....	38·48
		Sewan	...	1·19	0·02	0·02	0·05	0·98	9·69	16·00	7·23	13·11	0·75	.....	.....	49·04
	Chumparun ...	Moteeharee ...	...	0·51	.....	.....	0 50	2·50	13·40	13·62	6 06	13·70	.....	.....	.....	50·29
		Bettiah ...	...	0 70	0 50	.....	0·40	2·30	10·85	12·70	13·90	11·15	.....	.....	.....	52·50
Bhaugulpore.	Monghyr ...	Monghyr ...	160	1·27	0·81	.....	0·48	0·53	1·18	13·20	9·27	10·89	3·63	.....	.....	41·26
		Begoosari ...	...	2·00	2·05	0·21	0·20	1·50	2·44	14·50	6·64	6·84	4·44	.....	.....	40·82
		Jamooie ...	...	?	1·57	.....	2·03	1·68	2·06	9 73	9·44	4·50	3·03	.....	.....	?
	Bhauglupore ...	Bhaugulpore ...	146	0·21	0·27	.....	1·78	0·79	5·44	8·43	6·21	6·57	4·28	.....	.....	33·98
		Soopool ...	...	0·99	.....	.....	.....	3·80	7·57	18·49	9·68	12 06	4·77	.....	.....	57·36
		Mudheypoorah ...	...	0·50	0·50	.....	0·20	4·28	5·43	14 23	7·12	12·23	4·00	.....	.....	48·49
		Banka ...	...	0·62	1·24	.....	0·50	6·60	3·49	9·91	8·39	9·89	4·40	.....	.....	45·04
	Purneah ...	Purneah ...	...	1·20	0·64	.....	0·80	1·98	14·29	17·19	7·76	10·89	5·46	.....	.....	60·21
		Kishengunge ...	...	1·36	0·06	.....	0·23	4·01	13·17	23·34	22 00	12 02	4 62	.....	.....	80·81
		Arrarcah ...	...	?	.....	.....	.....	7·14	11·02	19·09	11·61	9·56	5 72	.....	.....	?

Bhaugulpore.	Sonthal Pergunnahs	Deoghur	...	...	0·03	2·31	0·12	0·35	1·39	2·93	7·63	9·26	7·13	1·31	.....	.....	41·46
		Jamtara	...	...	.....	1·50	.....	0·67	4·20	7·85	11·70	12·70	3·70	8·20	.....	0·20	50·72
		Rajmehal	...	...	.....	1·10	.....	0·80	1·20	4·10	12·60	3·98	10·60	5·40	.....	.....	39·78
		Pakour	...	...	.....	0·70	.....	1·18	3·34	7·47	10·56	5·51	10·80	7·61	.....	.....	47·17
		Nya Doomka	...	...	.....	1·90	0·06	1·36	2·09	8·80	12·70	9·78	6·90	5·54	.....	0·15	49·28
		Godda	...	...	?	?	?	?	?	?	?	?	6·78?	4·17	.....	0·05	?
	ORISSA.																
Orissa.	Cuttack ...	Cuttack	...	80	.....	0·63	.....	0·65	2·38	17·73	12·72	9·54	8·76	16·16	2·39	0·20	71·16
		Jajipore	...	...	.....	0·77	.....	1·50	3·00	16·15	16·30	5·20	9·60	5·72	0·50	0·80	59·54
		Kendraparah	...	...	.....	0·70	0·10	0·15	1·40	22·20	10·60	6·80	5·80	14·10	0·90	.....	62·75
		Jagatsingpore	...	...	.....	1·00	0·30	.....	2·20	24·80	11·40	6·80	8·16	18·23	3·00	.....	75·89
		False Point	...	18	.....	07·0	1·70	.....	2·71	35·45	17·55	10·95	17·70	15·85	4·05	.....	106·66
	Pooree ...	Pooree	...	15	.....	0·15	.....	0·03	0·82	23·75	8·71	10·70	7·04	16·19	7·75	.....	75·14
		Khurdah	...	...	.....	0·70	0·33	0·03	0·23	19·12	13·30	13·74	10·98	17·30	3·00	0·18	78·28
	Balasore ...	Balasore	...	15?	.....	2·07	.....	0·77	3·06	12·13	14·27	10·96	13·97	11·97	0·82	1·27	71·92
		Bhadrack	...	...	.....	0·89	0·55	2·15	3·51	14·52	16·65	9·06	8·82	6·69	.....	0·10	62·94
	Cuttack Tributary Mehals ...	Sambalpur	...	451	.....	.....	.....	.....	.....	15·51	19·87	16·97	8·50	2·55	.....	.....	63·40
	Madras ...	Vizagapatam	...	31	.....	.....	.....	0·10	1·50	6·00	9·20	8·80	7·60	13·20	3·50	4·00	53·90
	CHOTA NAGPORE.																
	South-Western Frontier Agency.																
	Hazareebaugh ...	Hazareebaugh	...	2010	0·24	0·75	0·14	0·81	0·62	2·42	7·99	11·57	6·88	3·68	...	...	35·10
		Pachamba	...	...	0·02	0·46	...	0·65	1·26	4·93	9·43	8·07	9·20	7·47	...	0·10	41·59
		Burhee	...	1169	0·10	1·40	0·07	1·96	?	?	?	?	?	?	?	?	?

Table XXII.—Rainfall in inches in 1872.—(Concluded.)

Division.	Districts.	Stations.	Elevation in feet.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lohardugga ...	Ranchee ...	...	...	1·46	0·10	1·39	1·62	10·54	10·34	9·00	10·44	3·86	0·24	...	48·99
		Palamow ...	...	0·55	0·41	1·13	0·90	0·03	0·92	8·52	6·88	9·28	0 43	...	...	29·05
	Chyebassa ...	Chyebassa ...	...	...	0·25	0·17	1·90	1·59	9·52	11·65	7·31	12·52	5·66	0·05	0·54	51·16
	Manbhoom ...	Purulia ...	...	...	1·08	...	1·74	2·59	12·89	9·51	8·01	5·19	6·68	0·53	...	48·22
		Gobindpore ...	...	...	1·35	...	0·60	0·47	9·06	14·51	12·69	4·19	9:47	...	...	52·34
	ASSAM AND ADJACENT HILLS.															
	Goalparah ...	Goalparah ...	386	0·83	0·07	0·76	3 20	12·12	35·15	13·21	11·40	23 79	4·61	...	...	105·14
		Dhoobree ...	...	1·00	...	1·55	3·20	23·35	31·14	17·95	7·55	16·40	6·30	...	...	108·44
	Kamroop ...	Gowhatty ...	...	1·70	0·43	2·11	2·36	11·66	12 14	13·54	15·84	12·83	6·20	0·28	...	79 09
		Burpettah ...	...	0·53	...	0·55	5·94	17·72	30·47	25·80	20·50	20·20	7·76	0·30	...	129·77
	Durrung ...	Tezpore ...	...	0·45	0·42	2·21	4·62	11·28	6·94	14·36	15·37	14·52	3·00	0·24	0·09	73·50
		Mungledye ...	...	0·64	0·55	1·86	5·39	13·53	13·66	7·11	11·89	14·87	5·79	0·67	0·16	76·12
	Nowgong ...	Nowgong ...	...	2·40	3·39	4·88	14·65	24·91	13·52	26·53	23·59	13·72	5·28	0·20	...	133·07
	Seebsaugor ...	Seebsaugor ...	...	0·84	3 79	6·01	13·99	8·71	9·70	16·15	19·84	13·93	8·54	1·32	0·85	103·67
		Golaghat ...	...	0·36	3·06	2·83	5·80	7·51	7·09	8·57	16·04	12·84	2·90	0·40	...	67·40
		Jorehaut ...	...	0·50	2·17	4·28	9·48	7·82	7·05	12·95	16·64	11·27	4·92	0·28	0·83	78·19
		Nazeerah ...	...	0·59	2·13	4·81	8·03	7·52	8·40	19·89	11·24	9·82	6·88	0·93	0·45	80·69
	Luckimpore ...	Debrooghur ...	...	1·65	2·37	5·35	14·70	9·30	10·70	21·84	20·63	19·02	5·05	1·17	0·40	112·18
		North Luckimpore ...	...	?	?	?	?	?	?	?	11·98?	18·68	4·01	1·26	0·54	?
		Sudyah ...	...	2·08	5·21	2·23	12·54	7·71	13·77	18·60	16·96	13·69	5·72	2·33	0·04	100 88

Naga Hills ...	Samoogoodting	...	...	0·10	0·44	1·55	2·74	1·59	10·14	12·40	7·75	5·20	7·04	0·10	...	49·05
Khasi and Jynteah Hills ...	Shillong	...	4825	0·01	0·40	0·01	1·85	8·01	8·80	24·77	8·29	25·38	4·32	..	0·02	81·86
	Jaowai	...	...	0·50	0·45	0·59	7·37	10·12	30·88	35·20	12·93	39·24	10·86	...	...	148·14
	Cheerapoonjee	...	4460	0·51	0·35	11·59	28·95	34·61	103·65	129·05	53·54	101·49	13·72	0·37	...	477·83
Garo Hills ...	Tura	...	...	...	0·23	...	3·49	15·59	17·62	25·10	12·27	28·69	8·21	0·10	..	111·30
Ceylon ...	Galle ...	...	40	5·67	3·06	1·02	9·68	2·22	4·35	3·14	5·61	9·59	2·92	20·63	8·17	76·06
	Colombo	...	42	1·21	1·19	5·98	10·59	4·34	2·09	1·34	4·09	8·55	2·82	17·27	2·57	62·04
	Trincomalee	...	175	5·65	1·24	0·59	2·25	0·94	0·15	1·46	4·46	3·15	5·75	16·05	7·87	49·56
	Jaffna	...	9	1·70	0·15	5·42	5·54	4·48	0·29	1·28	2·61	2·15	3·77	30·35	4·65	62·39
Madras ...	Madras	...	27	.....	0·28	.....	0·28	5·51	0·97	2·71	7·58	2·74	18·48	27·08	5·98	71·61
N.-W. Provinces ...	Benares	...	263	1·65	0·40	.....	.....	0·30	5·00	11·90	9·60	4·08	.....	.....	.....	32·93
	Jhansie	...	940?	0·40	0·20	.....	.....	0·50	2·70	15·60	15·80	0·80	.....	.....	.....	36·00
	Allahabad	...	289	2·10	0·22	.....	.....	0·30	2·70	11·18	25·92	5·36	.....	.....	.....	47·78
	Lucknow	...	364	1·61	0·53	.....	0·52	0·68	1·76	9·87	22·77	3·26	.....	.....	.....	41·00
	Agra	...	551	1·59	0·16	.....	0·40	1·10	1·58	5·04	8·60	4·67	.....	.....	0·23	23·37
	Bareilly	...	570	1·65	1·05	1·05	0·10	0·95	10·60	17·35	9·15	5·35	.....	.....	0·25	47·50
	Roorkee	...	880	4·02	1·55	0·14	0·22	0·93	3·94	13·91	19·78	7·17	.....	.....	0·38	52·04
Central India ...	Jubbulpore	...	...	0·27	0·14	2·04	0·65	.....	5·45	28·27	21·95	6·14	1·48	.....	0·40	66·79
	Nagpore	...	...	.....	.....	0·11	1·01	.....	4·01	7·44	9·35	14·80	4·22	.....	0·05	40·99

Table XXIII.—Days on which Rain was measured in 1872.

Division.	Districts.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
	BENGAL.														
	Western Districts.														
Burdwan.	Burdwan	Burdwan	...	3	...	5	5	15	20	21	13	6	...	2	90
		Cutwa	1	3	1	2	9	14	19	20	14	6	1	1	91
		Culna	1	3	...	7	5	14	19	16	15	8	...	1	89
		Bood-Bood	...	3	...	3	5	19	13	15	13	6	...	2	79
		Raneegunge	1	3	...	4	4	21	24	22	16	9	1	1	106
		Jehanabad	...	4	...	5	7	19	22	22	19	9	...	...	107
	Bancoorah ...	Bancoorah	...	2	...	5	5	15	15	19	16	8	...	...	85
	Beerbhoom ...	Sooree	2	3	...	4	7	12	22	25	13	9	1	...	98
	Midnapore ...	Midnapore	...	1	1	...	5	17	22	21	18	7	1	...	93
		Tumlook	1	3	...	5	4	16	10	9	8	6	...	..	62
		Gurbetta	...	2	...	8	3	20	18	21	12	6	...	...	90
		Contai	1	1	...	3	4	15	13	14	9	8	...	...	68
	Hooghly	Hooghly	1	3	...	3	6	11	24	20	19	14	...	2	103
		Serampore	2	3	1	7	10	17	22	22	15	11	...	1	111
	Howrah	Howrah	...	4	1	7	5	19	19	20	16	8	1	1	101

	Central Districts.																
Presidency.	24-Pergunnahs ..	Saugor Island	...	2	1	4	6	17	20	21	12	15	1	1	100
		Calcutta	1	4	1	7	6	21	24	24	15	11	1	2	117
		Alipore	...	4	1	5	4	17	20	22	14	9	...	1	97
		Busseerhaut	...	4	...	7	9	13	17	16	14	7	...	1	88
		Baraset	1	3	1	5	8	17	22	24	12	8	...	2	103
		Diamond Harbour	...	3	1	2	7	18	20	28	16	10	...	1	106
		Barripore	...	3	...	2	6	13	20	24	12	7	...	1	88
		Satkherah	1	6	1	8	10	15	20	21	14	9	...	2	107
		Barrackpore	1	2	1	7	9	15	20	16	15	14	...	2	102
		Dum-Dum	1	4	2	5	10	20	24	23	16	11	...	2	118
	Nuddea	Kishnaghur	1	3	...	3	12	21	21	20	15	12	1	...	109
		Bongong	...	1	...	3	7	10	17	16	11	11	...	1	77
		Meharpore	1	3	2	4	11	9	20	15	10	7	...	...	82
		Choadangah	1	1	...	3	13	11	17	18	8?	3?	...	...	?
		Kooshteah	...	2	...	4	8	18	16	16	15	10	...	...	89
		Ranaghat	...	1	...	3	8	12	18	17	16	8	...	1	84
	Jessore	Jessore	1	3	1	9	15	16	22	24	16	14	...	1	122
		Nurrail	1	3	...	9	12	13	21	21	11	9	...	1	101
		Khoolneah	...	...	2	7	12	17	21	24	16	11	...	1	111

Table XXIII—Days on which Rain was measured in 1872—(Continued.)

Division.	Districts.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Presidency.	Jessore	Jenadah	1	2	...	7	13	14	17	20	10	9	...	1	94
		Bagirhaut	...	2	1	4	6	18	17	14	15	5	...	2	84
		Magoorah	...	1	...	7	15	18	24	19	12	6	...	...	102
Rajshahye.	Moorshedabad ...	Berhampore	1	3	1	3	9	15	18	20	15	9	...	...	94
		Jamoosakandi	1	3	...	2	5	12	15	18	14	4	...	...	74
		City Moorshedabad	1	4	2	4	8	16	21	19	13	8	...	...	96
		Jungipore	2	3	2	8	9	22	23	22	14	8	...	1	114
		Azimgunge	?	4	3	5	6	17	14	18	13	7	...	...	?
	Dinagepore ...	Dinagepore	2	5	1	...	7	12	18	21	16	7	...	...	89
	Maldah	Maldah	2	4	1	5	9	19	19	21	14	7	...	...	101
	Rajshahye	Beauleah	...	4	1	4	8	16	19	16	13	7	...	...	88
		Nattore	...	1	...	2	6	7	12	16	14	7	...	..	65
	Rungpore	Rungpore	...	1	2	5	12	10	16	14	19	8	...	...	87
		Bhowanigunge	...	...	...	8	10	14	16	16	11	6	...	...	81
		Titalya	1	1	...	5	10	15	19	21	18	5	...	...	95
	Bograh	Bograh	...	3	....	3	13	18	22	24	14	5	...	...	102
	Pubna	Pubna	...	4	3	7	15	18	17	19	14	7	...	...	104
		Serajgunge	...	4	...	6	8	21	17	16	14	8	...	...	94

Cooch Behar.	Darjeeling ...	Darjeeling ...	...	1	4	4	11	9	24	26	30	21	9	...	...	139
		Rungbee ...	...	1	...	1	4	7	10	?	?	?	?	?	?	?
	Julpigoree ...	Julpigoree ...	...	1	...	1	6	11	19	16	26	18	7	1	...	106
		Fallacotta ...	...	?	?	?	?	?	?	?	12?	20	6	...	...	?
		Bodah	...	1	1	...	3	3	7	10	15	15	5	...	...	60
	Cooch Behar Tributary State ...	Cooch Behar ...	...	1	...	2	10	16	21	18	22	17	5	...	...	112
	Bhutan Dooars ...	Buxa	...	2	2	1	13	14	21	23	28	22	8	4	1	139
	Eastern Districts.															
Dacca.	Dacca	Dacca	...	1	4	1	9	9	10	19	12	11	7	...	...	83
		Moonsheegunge ...	...	?	?	?	?	?	14?	19	16	12	9	...	1	?
		Manickgunge ...	...	?	?	?	?	?	?	12?	15	11	5	...	...	?
	Furreedpore ...	Furreedpore ...	...	...	1	...	6	11	16	18	20	13	12	...	1	98
		Goalundo ...	...	...	2	...	2	9	16	20	18	11	7	...	...	85
	Backergunge ...	Burrisaul ...	...	1	6	1	7	10	19	27	23	20	6	1	1	122
		Perozepore ...	...	1	6	1	3	7	21	18	20	14	10	...	...	101
		Madaripore ...	...	1	3	2	9	7	19	26	25	17	14	...	1	124
		Patuakhally ...	...	?	?	?	?	7?	20	24	25	22	12	...	...	?
		Dowlatkhan ...	...	...	2	1	5	11	17	20	20	14	10	1	...	101
	Mymensing ...	Mymensing ...	...	...	2	...	7	9	21	24	22	20	4	...	...	109
		Jamalpore ...	...	...	2	...	6	6	12	19	21	17	3	...	...	86

Table XXIII.—Days on which Rain was measured in 1872—(Continued.)

Division.	Districts.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Dacca.	Mymensing ...	Atteah	1	3	...	7	6	11	19	17	14	7	...	...	85
		Kishoregunge	...	3	2	10	12	21	30	25	23	10	...	...	136
	Sylhet	Sylhet	2	3	8	17	21	23	25	27	21	12	1	...	160
	Cachar	Silchar	2	5	10	17	20	19	24	28	20	13	1	1	160
		Hylakandi	2	5	9	17	16	19	26	25	18	12	...	...	149
		Koyah	1	4	10	13	18	14	22	24	18	12	...	...	136
Chittagong.	Chittagong ..	Chittagong	1	2	...	7	8	16	25	21	21	9	...	1	111
		Cox's Bazar	1	1	2	5	15	18	23	27	18	15	...	2	127
	Noakhally	Noakhally	1	4	2	8	12	19	28	26	20	13	3	1	137
	Tipperah	Comillah	1	4	2	11	11	15	25	24	15	8	1	1	118
		Brahmanbariah	1	3	1	8	13	21	28	16	15	12	...	1	119
	Chittagong Hill Tracts	Rangamatee Hill	1	2	1	8	11	15	25	20	18	8	...	1	110
	Hill Tipperah ...	Hill Tipperah	?	?	?	?	?	?	?	16?	17	11	...	1	?
	Arakan	Akyab	1	...	...	2	19	24	28	30	21	16	1	1	143
	Andamans	Port Blair...	1	3	...	2	20	23	28	31	23	27	13	...	171

BEHAR.

Patna	Patna	Patna	5	3	1	...	3	5	15	13	14	2	...	...	61
		Behar	3	2	...	3	4	8	16	16	13	3	...	...	68
		Barh	3	3	...	4	3	5	16	14	10	3	...	...	61
		Dinapore	4	2	...	1	1	4	18	8	18	2	...	...	58
	Gya	Gya	3	4	...	2	1	5	15	22	8	1	...	...	61
		Nowadah	...	2	1	1	3	3	15	11	10	1	...	...	47
		Arungabad	3	4	...	2	1	5	19	22	12	2	...	...	70
		Sherghotty	1	5	...	3	1	3	16	20	?	?	?	?	?
	Shahabad	Arrah	6	2	2	2	4	6	16	11	11	3	...	...	63
		Sasseram	3	4	1	1	2	8	16	20	12	2	...	1	70
		Buxar	7	1	1	...	1	7	13	14	16	1	...	...	61
		Bhubooah	4	2	...	1	2	6	14	15	9	1	...	..	54
	Tirhoot	Mozufferpore	5	1	1	3	3	5	15	17	9	3	...	...	62
		Durbhangah	2	1	1	...	3	5	13	13	9	3	...	...	50
		Hajeepore...	5	4	1	1	2	6	17	14	14	4	...	..	68
		Madhubani	3	1	...	2	3	11	14	16	11	4	...	...	65
		Seetamaree	4	1	...	2	3	8	7	8	10	2	...	...	45
		Tajpore	2	2	1	1	2	5	10	12	10	2	...	1	48
	Sarun	Chuprah	3	1	1	...	2	3	15	13	14	3	...	...	55
		Sewan	6	1	1	1	2	7	15	18	15	2	...	...	68

PATNA.

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Table XXIII.—Days on which Rain was measured in 1872—(Continued.)

Division.	Districts.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Patna.	Chumparun ...	Motecharee	2	...	...	2	4	10	15	14	13	...	...	...	60
		Bettiah	1	1	...	1	3	8	10	8	15	...	...	...	47
Bhaugulpore.	Mongbyr	Monghyr	4	4	...	2	2	4	15	18	9	5	...	...	63
		Begoosarie	2	2	1	1	3	7	16	17	12	3	...	...	64
		Jamooie	?	2	...	1	2	8	20	17	8	3	...	...	?
	Bhaugulpore ...	Bhaugulpore	2	1	...	2	2	7	20	22	10	5	...	..	71
		Soopool	1	...	...	...	5	9	22	20	15	3	...	...	75
		Mudheypoorah	1	1	...	1	4	8	17	8	13	3	...	...	56
		Banka	2	3	...	1	2	7	15	19	12	3	...	...	64
	Purneah ...	Purneah	1	3	...	1	4	8	18	16	13	4	...	...	68
		Kishengunge	1	1	...	3	10	12	19	21	13	3	...	...	83
		Arrareah	?	...	...	...	4	5	13	11	8	2	...	..	?
	Sonthal Pergunnahs ...	Deoghur	1	4	1	1	3	8	19	17	14	4	...	...	72
		Jamtara	...	3	...	2	5	17	16	18	13	4	...	1	79
		Rajmehal	...	3	...	1	4	6	18	10	5	3	...	...	50
		Pakour	...	2	...	3	5	13	15	18	17	4	...	...	77
		Nyadoomka	...	4	1	4	5	17	22	25	15	7	...	1	101
		Godda	?	?	?	?	?	?	?	?	12?	3	...	1	?

ORISSA.																		
ORISSA.	Cuttack	...	Cuttack	...	...	...	3	...	3	4	19	22	26	21	17	2	1	118
			Jajipore	...	...	...	3	...	4	3	13	14	10	16	11	1	3	78
			Kendraparah	...	...	...	2	1	2	3	12	10	10	10	9	1	...	60
			Jagatsingpore	...	...	...	1	1	...	3	13	17	13	11	11	2	...	72
			False Point	...	...	...	2	1	...	2	10	17	16	12	10	2	...	72
	Pooree	...	Pooree	...	...	...	2	...	1	2	13	20	21	18	16	2	...	95
			Khurdah	...	...	...	2	1	1	3	16	24	22	16	13	2	1	101
	Balasore	...	Balasore	...	...	...	3	...	2	6	15	21	23	14	8	2	3	97
			Bhadrack	...	...	...	2	2	3	3	15	19	23	17	9	...	1	94
	Cuttack Tributary Mehals		Sambalpur	...	...	...	...	...	...	...	9	20	20	13	3	...	...	65
	Madras		Vizagapatam	...	...	...	...	...	1	6	10	16	14	14	13	5	3	82
	CHOTA NAGPORE.																	
	South-Western Frontier Agency.																	
	Hazareebaugh	...	Hazareebaugh	...	...	1	4	3	5	3	7	25	25	17	7	...	...	97
			Pachamba	...	...	1	2	...	2	4	14	22	26	13	8	...	1	93
			Burhee	...	...	1	4	2	4	?	?	?	?	?	?	?	?	?
	Lohardugga	...	Ranchee	...	...	...	3	2	4	4	9	20	21	19	4	1	...	87
			Palamow	...	...	1	2	2	3	1	7	22	19	13	1	...	...	71
	Singbhoom ...	...	Chyebassa	...	...	...	3	1	8	7	17	28	24	22	11	1	3	125
	Manbhoom	...	Purulia	...	...	...	3	...	5	4	21	23	21	18	7	2	...	104
			Gobindpore	...	...	...	3	...	1	2	12	20	15	8	6	...	...	67

Table XXIII.—Days on which Rain was measured in 1872—(Concluded.)

Division.	Districts.	Stations.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	ASSAM AND ADJACENT HILLS.														
	Goalparah ...	Goalparah	2	1	2	12	17	23	19	18	16	7	...	...	117
		Dhoobree	1	...	2	4	18	20	15	17	11	6	...	...	94
	Kamroop ...	Gowhatty	1	2	4	6	13	17	18	14	12	5	1	...	93
		Burpettah	1	...	3	10	20	22	22	19	20	6	1	...	124
	Durrung ...	Tezpore	1	4	4	13	14	22	22	25	23	10	4	1	143
		Mungledye	2	7	3	16	18	20	19	18	18	7	3	1	132
	Nowgong ...	Nowgong	1	3	1	9	14	11	18	21	15	8	1	...	102
	Seebsaugor ...	Seebsaugor	4	10	10	19	10	16	19	25	17	12	3	1	146
		Golaghat	3	9	8	16	19	19	20	23	15	11	5	...	148
		Jorehaut	6	9	10	16	13	17	18	20	17	8	2	1	137
		Nazeerah	10	15	14	21	16	21	20	11?	18	13	5	1	?
	Luckimpore ...	Debrooghur	6	9	12	17	12	20	19	22	20	11	4	2	154
		North Luckimpore	?	?	?	?	?	?	?	16?	21	13	5	1	?
		Sudyah	5	18	6	19	13	10	17	20	17	11	5	1	142
	Naga Hills ...	Samoogoodting	1	1	3	6	4	14	19	22	18	16	2	...	106

Khasi and Jynteah Hills	Shillong	...	...	1	3	1	8	14	16	24	19	18	9	...	2	115
	Jaowai	...	...	1	2	3	15	19	22	24	26	19	13	...	...	144
	Cherrapoonjee	...	...	3	2	7	18	24	24	27	21?	22	17	2	...	?
Garrow Hills ...	Tura	...	...	...	1	...	8	15	20	20	19	23	10	1	...	117
Ceylon	Galle ...	...	...	18	7	3	17	18	14	20	20	23	17	23	20	200
	Colombo ...	...	..	4	6	7	18	12	10	8	7	23	15	22	11	143
	Trincomallee	...	...	14	8	3	9	1	1	4	10	9	16	27	17	119
	Jaffna ...	...	...	10	1	3	11	3	3	3	8	6	12	26	15	101
Madras	Madras ...	...	...	...	1	...	2	3	7	17	18	12	16	19	12	107
N. W. Provinces ...	Benares ...	...	...	3	2	...	...	2	7	19	20	10	...	...	...	63
	Jhansie ...	...	...	3	1	...	...	2	2	19	18	4	...	...	...	49
	Allahabad	...	...	7	3	...	..	1	5	18	24	10	..	...	...	68
	Lucknow ...	...	...	5	3	...	2	3	8	11	18	6	...	...	...	56
	Agra ...	...	...	4	1	...	2	4	5	14	17	5	...	...	1	53
	Barielly ...	...	...	4	3	1	1	2	6	11	14	10	...	...	1	53
	Roorkee ...	...	...	7	3	1	1	2	9	16	20	11	...	...	2	72

Table XXIV.—Comparison of the total Rainfall of 1872, with the average of many years.

Stations.	Average.		1872, Ins.	Excess in 1872, Ins.	Defect in 1872, Ins.
	Years.	Ins.			
Burdwan	12 to 15	60·31	42·47		17 84
Raneegunge	6	54·67	49 24		5 43
Bancoorah	14 to 16	53·09	44·41		8·68
Sooree	9	44·21	50·94	6·73	
Midnapore	6 to 8	64·77	55·59		9·18
Saugor Island	4 to 5	87·61	57·11		30·50
Calcutta	32	66·04	51·05		14·99
Kishnaghur	8 to 12	58·41	42·07		16·34
Jessore	10 to 14	66·06	69·41	3·35	
Berhampore	14 to 16	54·30	65·62	11·32	
Dinagepore	10 to 12	85·54	75·79		9·75
Maldah	14 to 16	54·04	52·51		1·53
Beauleah	10 to 12	62·19	54·08		8·11
Rungpore	10 to 12	88·45	86·25		2·20
Bograh	8 to 11	90·39	66·88		23·51
Dacca...	11 to 12	75·29	64·40		10·89
Mymensing	7 to 8	105·10	86·36		18·74
Sylhet	12 to 15	141·67	197·70	56·03	
Silchar	11 to 13	119·41	124·44	5·03	
Chittagong	13 to 15	106·50	88·53		17·97
Noakhally	13 to 15	101·15	110·10	8·95	
Tipperah	11 to 12	94·47	81·81		12·66
Akyab	12 to 14	199·89	180·39		19·50
Patna	9 to 10	37·16	31·17		5·99
Gya	8 to 10	43·14	32·13		11·01
Arrah	13 to 16	50·51	35·53		14·98
Mozufferpore	11 to 13	43·79	50·57	6·78	
Chuprah	13 to 16	37·88	38·48	0·60	
Chumparun	8 to 10	45·05	50 29	5 24	
Darjeeling	9 to 12	126·96	107·46		19·50

Table XXIV.--Comparison of the total Rainfall of 1872, with the average of many years—(*continued.*)

Stations.	Average.		1872, Ins.	Excess in 1872, Ins.	Defect in 1872, Ins.
	Years.	Ins.			
Buxar	3	280·22	194·83		85·39
Monghyr	15 to 16	40·43	41·26	0·83	
Bhagulpore	15 to 16	48·92	33·98		14·94
Cuttack	11 to 14	52·52	71·16	18·64	
False Point	6	74·40	106·66	32·26	
Pooree	14 to 15	54·29	75·14	20·85	
Balasore	10 to 12	67·00	71·92	4·92	
Sambalpore	7 to 10	48·80	63·40	14·60	
Hazareebaugh	6 to 7	52·91	35·10		17·81
Ranchee	14 to 16	42·25	48·99	6·74	
Purulia	7 to 10	44·21	48·21	4·00	
Goalparah	7 to 8	97·78	105·14	7·36	
Gowhatty	10 to 12	69·23	79·09	9·86	
Tezpore	10 to 12	77·11	73·50		3·61
Nowgong	10 to 12	83·25	133·07	49·82	
Seebsaugor	12 to 14	93·61	103·67	10·06	
Nazeerah	9 to 10	83·56	80·69		2·87
Shillong	5 to 6	81·45	81·86	0·41	
Cherrapoonjee	5 to 12	527·26	477·83		49·43
Benares	8 to 9	34·03	32·93		1·10
Jhansi	4 to 7	34·19	36·00	1·81	
Lucknow	5	44·45	41·00		3·45
Agra	8 to 9	25·30	23·37		1·93
Bareilly	4 to 5	42·14	47·50	5·36	
Roorkee	8	36·88	52·04	15·16	
Jubbulpore	10	51·79	66·79	15·00	
Nagpore	13	44·72	40·99		3·73

In most parts of Bengal the rains of 1872 were unusually light. At Calcutta the fall was 15 inches below the average; at Kishnagur more than 16 inches; at Burdwan nearly 18 inches, and at Saugor Island about 30 inches less. At Bograh and Mymensing the deficit amounted to 23·5 and 18·7 inches, and at Dacca to nearly 11 inches; so also in Tipperah and down the Arracan Coast, in Northern Bengal, and the Western and Southern part of Behar. Somewhat anomalously certain small tracts interspersed among these were fortunate exceptions to the rule. Thus Berhampore and Sooree in the north-west of the Delta received rather more than the average, and so also to a less extent did Jessore. In the south-east Noakhally was similarly favored, and also Chumparun and Tirhoot in Behar. In Orissa, the rainfall of the year was greatly in excess of the average, and such was also the case at Sumbulpore and in Chota Nagpore, south of the Damoodah. In Assam, again, it generally exceeded the average, especially at Nowgong, where it was more than half as great again. At Sylhet the fall was one-third greater than the average, while at Cherrapoonjee it was considerably below it. In the North-Western Provinces and the Central Provinces the fall appears to have been either about the average or above it.

In Lower Bengal there was a deficiency of rain in every month, except October; but such rain as there was fell seasonably, so that nothing like any general failure of crops ensued. The excessive rainfall in Orissa was chiefly owing to the storms which prevailed in the head of the Bay in June and October. The high flood of the Mahanuddy in July, which at one time seriously threatened to sweep away the town of Cuttack, had, however, no connection with these storms, and must have been produced by rain in the interior brought by the winds from the West Coast. In the North-Western Provinces and Behar the rain in January was somewhat greater than usual, but the hot weather months, June and July, were generally dry, and rain did not fall generally and plentifully till August. In Assam, Sylhet, and Cachar, there were many minor irregularities in the rainfall of the year, but except at Nowgong and Sylhet, the first of which had an excessive fall in April, May, July, and August, and the last in June, July, and September, there was no very striking departure from the average distribution.

Winds.

The following table gives the number of observations of each wind recorded in each month at 22 stations, together with the mean daily movement of the air in miles at 19 stations. At most of these, 16 of the 32 points are distinguished, and calms have been recorded at all those under the meteorological department, since the attention of the observers was drawn to their apparent omission in July 1871. Formerly they were recorded also at the Surveyor-General's Office in Calcutta, but this has not been the case for some years past. I have, in this and the two previous years' reports, altered the wind notation of the Calcutta register as received to my office, and as published in the "Journal

of the Asiatic Society." Having observed that in these wind tables the winds are classified under the unusual number of 24 points, I made enquiry as to the observatory practice, and learned that, with the exception of the eight principal points, the meaning attached to the compass notation in the Surveyor-General's Office registers is different from that which it ordinarily bears. Thus, N. by E. is used for N. 15° E.; N.N.E. for N. 30° E.; and so on. I have therefore substituted a notation less likely to mislead.

The anemometers used are all on Dr. Robinson's principle, either with a vertical train of five wheels as constructed by Messrs. Adie, or with two concentric wheels constructed by Mr. Casella. The instruments are fixed either on the top of a building or of a post set up for the purpose. The elevations of the cup and bulb-motors above the ground are as follow:—

Akyab ...	...	50 ft. on a post.
Cuttack ...	...	31 ft. on building.
Saugor Island	...	39 „ „ turret of Superintendent's house.
Calcutta ...	...	71 „ „ the highest point of the Surveyor-General's Office.
Jessore ...	...	? on a building.
Chittagong	...	25 ft. on the E. T. Office Building.
Dacca ...	...	43 „ ditto ditto.
Silchar ...	...	21 „ on a post.
Shillong...	...	15 „ ditto.
Goalparah	...	19 „ ditto.
Berhampore	...	? on roof of Civil Surgeon's house.
Hazareebaugh	...	6 „ on a small post.
Monghyr	...	9 „ ditto.
Patna ...	...	34 „ on roof of cutcherry.

At Chittagong and Goalparah the observatories are situated on hills, so that the exposure of the anemometers is really somewhat better than would be judged from the above figures, and at Hazareebaugh this instrument was fixed at the highest point in the station, in a site remarkably free from trees and other impediments to the free motion of the air.

In table XXVI. is shown the resultant winds of each station in each month of 1871, (computed by Lambert's formula from the number of the observed winds during the month), and the excess percentage in the direction of the resultant. In table XXVII. is given the average corresponding data for several stations, derived from several years' observations; and in table XXVIII. the average daily movement of the wind in each month, also obtained from two or three years' past registers.

Table XXV.—Summary of observed Wind Directions in 1872.

PORT BLAIR.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	22	22	7	5							1	
N. N. E. ...		1										
N. E. ...	32	29	43	31	2				2	8	46	52
E. N. E. ...												
East ...	6	3	4	9						2	2	1
E. S. E. ...												
S. E. ..			6	11	5	23	2	5	9	24	8	1
S. S. E. ...												
South ...				2	5	4	1	4				
S. S. W. ...												
S. W. ...	1	2	1	1	49	33	56	50	44	20		
W. S. W. ...												
West ...				1			3	3				
W. N. W. ...												
N. W. ...	1	1	1		1				5	8	3	8
N. N. W. ...												
Calm ...												

MADRAS.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1				2					5	13	7
N. N. E. ...	4					1					17	23
N. E. ...	22	2		1			2	1		2	12	15
E. N. E. ...	19	12	1	2			1			4	8	3
East ...	4	12	3	3		1	2	1	3	7	1	3
E. S. E. ...	3	5	5	8	3	3	4	1	5	4		7
S. E. ...	2	10	18	23	9	9	2	1	5	1		3
S. S. E. ...		8	18	14	16	8	2	3	4	2		
South ...		5	11	3	3	1	4	2	6	1		
S. S W. ...		2	6	4	5	4	3	4	4			
S. W. ...	1	2		2	7	7	8	13	5	5	1	
W. S. W. ...					11	11	11	14	9	1	1	
West ...					3	7	13	15	12	7	1	
W. N. W. ...					1	6	5	5	4	7	2	
N. W. ...	1				2		5	1	2	6		
N. N. W. ...	3					2		1	1	8	3	1
Calm ...												

Mean Diurnal Velocity in miles	219·9	185·3	212·7	252·2	280·4	264·8	271·2	222·4	189·4	170·1	235·4	210·6

VIZAGAPATAM.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1									2	3	5
N. N. E. ...	5		1		2			1	1		2	1
N. E. ...	10	4	1						1	12	10	9
E. N. E. ...	20	1	1	1	5	3		3	4	25	28	24
East ...	28	7		3	4	9	5	2	11	25	46	38
E. S. E. ...	16	7		1	4	3			4	7	3	7
S. E. ...	14	22	6	8	11	7	7	2	5	9	2	6
S. S. E. ...	7	8	10	11	10	12	1	1	5	3	3	2
South ...	10	13	25	23	20	17	5	10	14	5	3	
S. S. W. ...	4	8		2	7	4	3	2	3	2		
S. W. ...	2	13	13	16	10	10	10	14	13	3	3	1
W. S. W. ...		11	18	14	17	16	26	20	12	6	1	2
West ...	3	15	38	35	27	33	54	53	33	16	3	7
W. N. W. ...		5	9	5	4	4	10	12	9	4	4	9
N. W. ...	4	2	2	1	3	2	3	2	3	3	8	12
N. N. W. ...								2	2	2	1	1
Calm ...												

Mean Diurnal Velocity in miles ...	61·9	76·2	105·8	124·3	128·3	139·7	99·9	56·3	53·9	56·8	91·9	53·7

AKYAB.

October and December three observations; other months four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	27	22	7	11	4	2			3	1	9	4
N. N. E. ...	8	2	3		3					3	3	2
N. E. ...	14	11			2	2	3	1	3	7	10	11
E. N. E. ...	8	11	4	2	1	2	2	1	5	2	13	6
East ...	3	4	6	6	8	8		6	13	15	10	3
E. S. E. ...	1	2	6	3	8	4	4	5	6	9		
S. E. ...			8	3	14	17	22	14	9	6		
S. S. E. ...		1	1	3	7	10	17	13	3	5		
South ...	12		2	3	23	52	40	41	18	10	3	
S. S. W. ...	2		3	9	9	13	15	14	13	4		4
S. W. ...	4	1	17	7	5	4	9	11	5	8	5	3
W. S. W. ...	7	1	10	10	4	2	2	3	4		2	
West ...	19	18	16	16	15	1	6	8	22	15	16	26
W. N. W. ...	8	15	14	18	10	1	1		5	4	14	16
N. W. ...	6	18	12	20	5		2		6	3	20	14
N. N. W. ...	5	10	15	9	5	1	1		3	1	9	4
Calm ...												
Mean Diurnal Velocity in miles ...						67·8	53·1	19·6	20·8	31·2	18·7	19·2

FALSE POINT.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	14	8	1	1		1	4	1	2	13	31	20
N. N. E. ...	1	3				2				11	16	8
N. E. ...	19	10	4	1	1	7	4	6	2	29	40	35
E. N. E. ...	6	2				2		1	2	5	2	6
East ...	11	2	1	1		1	2		3	6		13
E. S. E. ...	4	4	1		1		3	2	11	3		8
S. E. ...	17	8	5	1	5		5	9	16	8	2	3
S. S. E. ...	8	4		8	5	11	6	11	11	2		2
South ...	10	3	6	2	7	6	7	9	5	2		1
S. S. W. ...	3	11	4	8	10	15	1	7	2	1		
S. W. ...	13	39	68	78	80	39	36	32	40	9		2
W. S. W. ...			19	8	7	9	26	4	3			
West ...	6	6	3	4	5	15	18	22	7	1		5
W. N. W. ...	1		2			6	5	10	1			2
N. W. ...	5	11	7	7		2	3	4	1	7	9	11
N. N. W. ...						1		1		1	3	5
Calm ...	6		2	1	3	3	2	5	14	22	17	3
Variable ...		1	1				2			4		

CUTTACK.

June to August three observations; other months four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.
North ...	3	1	1	2		1			1	9	26	12
N. N. E. ...	7	7	5	3	1	8	3	2	3	29	15	15
N. E. ...	11	9	6	2	3		3	3	7	22	2	11
E. N. E. ...	9	5	4	2	5		6	2	11	8		10
East ...	13	1	5	2	5		2	4	11	4		1
E. S. E. ...	2	5	7		2	2	4	3	7	4		8
S. E. ...	9	1	3	2	10	2	5	2	2	5		3
S. S. E. ...	19	18	8	9	7	6	3	5	2	1		3
South ...	20	17	15	26	38	17	2	14	6	1		4
S. S. W. ...	9	19	30		24	14	13	18	25	1		
S. W. ...	5	6	15	23	23	13	28	20	10	4		2
W. S. W. ...	4	6	6	3	2	14	13	6	4	2	1	4
West ...	5	2	2	1	1	9	2	7	6	12	8	9
W. N. W. ...	1	2	4	3	2	4	2	3	4	1	24	15
N. W. ...		2	1	41	1		4	3	2	5	23	5
N. N. W. ...	2	3	1	1			3	1	1	1	12	6
Calm ...	5	3	6						18	15	8	14
Variable ..		9	5									
Mean Diurnal Velocity in miles ...	38·6	66·7	85·1	128·7	160·2	162·7	118·6	76·3	80·1	69·5	45·8	36·8

SAUGOR ISLAND.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	24	15	3	1	1	2	1	2	5	16	30	
N. N. E. ...	5	3				1			2	10	16	
N. E. ...	11	5	1	1	2	9	5	1	2	19	26	
E. N. E. ...	8	3	1	1	1	5	4	1	1	7	4	
East ...	2	5	2	1	3	9	5	6	8	15	1	
E. S. E. ...						7	3	4	6			
S. E. ...		1	1	2	1	7	12	8	10	5		
S. S. E. ...	7	4	4		6	6	9	25	10	4		
South ...	17	28	26	23	35	33	21	16	22	14		
S. S. W. ...	11	19	21	29	55	30	16	18	17	6		
S. W. ...	12	16	45	51	18	7	36	18	20	4	1	
W. S. W. ...	4	5	4	2		1	4	8	3	2	1	
West ...	6	2	4	4	2	2	4	6	5	6	3	
W. N. W. ...	1	1	4	1		1	1	3	4	6	4	
N. W. ...	9	5	6	3			3	3	4	4	4	
N. N. W. ...	7	3	2	1				1	1	6	23	
Calm ...		1										

Untrustworthy.

Mean Diurnal Velocity in miles ...	96·6	188·4	206·1	356·7	356·4	357·1	296·0	262·2	259·7	119·7	94·7	111·7

CHITTAGONG.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	23	27	6	6	1	1			5	20	20	26
N. N. E. ...	10	14	1	4	5	1	2	1	5	5	5	8
N. E. ...	5	2	2	6	2	5	3	3	1	3		4
E. N. E. ...		2		1	5	4	4	1	1	3		
East ...		3	5	4	6	12	7	19	13	9	3	1
E. S. E. ...		2	2	5	13	7	24	28	16	9		
S. E. ...		1	7	6	4	11	21	28	19	3		
S. S. E. ...		1	8	3	2	6	5	5	3			
South ...	3		16	16	14	23	21	20	9	3		
S. S. W. ...	1		1		1	3	3	2				
S. W. ...	2	7	24	28	31	14	8	14	18	22	1	1
W. S. W. ...	9	7	5	6	4	2	4			3	6	10
West ...	21	13	14	7	6	13	5		3	9	22	23
W. N. W. ...	6		1	2		2	1		1	1	5	5
N. W. ...	25	7	6	8	1				1	10	27	22
N. N. W. ...	19	8	4					1	2	8	23	15
Calm ...		22	22	18	29	16	16	2	19	16	5	

Mean Diurnal Velocity in miles ...	123·2	123·8	166·6	168·3	151·9	176·9	180·1	167·2	136·1	72·0	79·5	98·5

CALCUTTA.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	3	1		1					2	3	17	7
N. 15° E. ...	3	3						1	1	2	13	3
N. 30 E. ...	13	4	3				1		3	8	5	8
N. E. ...	7	1							1	10	24	61
N. 60 E. ...	9	3				4			2	25	11	9
N. 75 E. ...	2	6			2	13	2	3	1	9	4	3
East ...		2		1	4	7	7	2	2	3	1	
S. 75 E. ...					3	4	1	5	1	2		
S. 60 E. ...	5	1	2	1	3	6	2	2	6	3		
S. E. ...	1	1	2	4	6	5	12	8	11	7		
S. 30 E. ...	1	2	2	5	7	17	15	14	11	8		
S. 15 E. ...	1	1	1	3	8	15	11	22	3	1		2
South ...	1	3	4	21	32	27	16	26	16	4		1
S. 15 W. ...	4	9	24	32	24	14	5	13	7	4		
S. 30 W. ...	11	18	38	27	19	7	19	9	21	10		
S. W. ...	5	11	21	9	5	1	16	9	14	4		
S. 60 W. ...	6	10	10	4	2		4	6	4	1	1	1
S. 75 W. ...	7	8	4				1	1	3			
West ...	13	5	7	4	3		4	2	2	1	1	1
N. 75 W. ...	6	12	1	2	1					2	2	
N. 60 W. ...	17	3	3	2	2				2	4	7	8
N. W. ...	2	5	1	1	2		1	1	4	6	16	12
N. 30 W. ...	6	5							1	5	6	5
N. 15 W. ...	1	2	1				1		1	2	12	3
Calm ...												
Mean Diurnal Velocity in miles ...		80·1	135·7	170·0	202·6	237·0	143·2	89·5	100·7	66 8	71·0	73·1

JESSORE.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	23	2	1	1						5	53	22
N. N. E. ...	1			1						8		3
N. E. ...	11	8		1	2				7	8	6	1
E. N. E. ...	2	1		1						1		
East ...	3	7	1	3	8	1	3		3	4	5	1
E. S. E. ...	1	1		1	1	26	6		2	5		
S. E. ...	9	6	7	8	37	21	39	27	31	14	2	3
S. S. E. ...		3	2	3	4	6	10	12	5	5		
South ...	4	9	19	45	31	50	24	60	31	26	2	4
S. S. W. ...		2	5	5	4	4	9	3	7	1		
S. W. ...	1	12	41	18	11	11	22	4	12	8	7	
W. S. W. ...		1	1	5	1			1	1			1
West ...	4	13	19	9	4		3		3	4	1	1
W. N. W. ...		2	3	3			1		1			2
N. W. ...	12	8	4	2					3	6	15	15
N. N. W. ...	11	6	4	1						1	5	33
Calm ...	42	35	17	13	21	1	7	17	14	28	23	38
Mean Diurnal Velocity in miles ...		56·7	91·9	111·7	123·6	163·5	117·5	103·6	93·5	59·1	44·1	47·0

DACCA.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	20	5	3	2	1				3	15	33	28
N. N. E. ...	4	3	2	1					2	10	4	4
N. E. ...	10	3	2	5	4		2			8	1	7
E. N. E. ...		1	1	2	2			1		4	2	2
East ...	1	4	1	10	13	15	5	4	3	12	1	1
E. S. E. ...	4	4	2	4	10	21	8	5	4	3	1	
S. E. ...	6	3	5	14	21	23	25	23	14	4	1	
S. S. E. ...	1	4	14	7	21	18	22	32	8	8		3
South ...	6	7	27	26	31	26	32	35	20	10	1	2
S. S. W. ...	4	7	22	21	11	8	14	9	21	9	1	2
S. W. ...	5	10	18	11	2	6	9	2	20	4	1	4
W. S. W. ...		1	1				1		6		3	1
West ...	14	16	4	7	3		1	1	1	6	5	14
W. N. W. ...	9	8	1	1					2	6	5	26
N. W. ...	16	16	6	1					5	3	28	22
N. N. W. ...	2		1							1	17	3
Calm ...	16	16	9	7	1	2	2	8	6	13	9	4

Mean Diurnal Velocity in miles ...	63·1	69·1	136·3	123·6	134·4	194·7	168·7	142·6	125·6	58·6	44·4	46·5

SILCHAR.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	2	4	5	3	8	5	5	7	6	3	4
N. N. E. ...	3		1	3	6	1	3		2	1		
N. E. ...	6	12	3	6	11	2	2	2	3	9	17	10
E. N. E. ...	12	15	23	18	5	15	18	15	17	7	14	10
East ...	22	21	18	32	22	23	18	11	16	13	18	12
E. S. E. ...	13	12	8	8	6	1	2	5	7	19	6	8
S. E. ...	6	7	8	4	7	4	2	4	2	8	6	8
S. S. E. ...	6	5		6	3	2	8	8	10	5	2	4
South ...	4	1	8	4	7	5	3	5	5	7	2	2
S. S. W. ...	6	5	4	3	4	1	11	6	6	1	3	2
S. W. ...	8	8	7		2	2	1		5	8	5	12
W. S. W. ...	10	12	13	6	2	3	4	8	2	5	3	3
West ...	2	4	9	9	18	25	15	17	11	7	5	5
W. N. W. ...	2		3	6	5	6	10	15	9	12	2	4
N. W. ...		1	1		2		3		2	2	2	4
N. N. W. ...	1	1	3	2		2		3				
Calm ...	19	10	11	8	21	20	19	20	14	14	27	36
Mean Diurnal Velocity in miles ...	118·0	135·1	?	?	?	?	67·0	71·1	63·7	62·5	60·4	39·1

HAZAREEBAUGH.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	15	10	5	5	15	1	5	1	3		15	5
N. N. E. ...	1	2	3		2	4	4		5		4	2
N. E. ...	4	4		1	2	9	4	1	4		14	3
E. N. E. ...	1	2			2	2	12	4	3		3	2
East ...	3	2			6	8	11	12	4		2	
E. S. E. ...	3	3		1	2	10	11	8	13		3	1
S. E. ...	2	2			4	12	14	22	10		5	1
S. S. E. ...	7	3	1	7	8	14	12	16	11		1	
South ...	10	1	4	11	10	16	9	8	5		1	5
S. S. W. ...		1	6	4	3	14		3	8			5
S. W. ...	2	4	3	3	7	15	6	3	5		3	
W. S. W. ...	2	1	5	4	4	2	11	1	5		4	
West ...	4	9	14	10	7		10	4	2		9	7
W. N. W. ...	14	25	28	19	5	2	7	8	9		9	18
N. W. ...	42	41	49	43	38	6	2	11	12		27	54
N. N. W. ...	14	6	6	12	9	4	3	1	5		15	18
Calm ...							2	7	8		5	
Mean Diurnal Velocity in miles ...	114·8	134·4	142·7	144·3	173·8	237·2	200·9	152·0	120·1	...	62·9	55·3

BERHAMPORE.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ..	19	5	9	5	1		1	2	3	6	16	24
N. N. E. ...	27	9	1	3	2	3	2		3	8	17	17
N. E. ...	5	6	3	3	4	6	1	1	3	6	3	4
E. N. E. ...	3		1	6	6	11	3	3	8	7	2	
East ...	3	5	1	6	28	16	8	9	3	2		
E. S. E. ...		2	1	10	22	26	36	40	19	4		
S. E. ...		1	1	3	14	18	23	35	13	5		
S. S. E. ...	2	2	2	3	3	3	2	7	2	2		
South ...	5		2	6	8	17	9	3	6	3		
S. S. W. ...	1	4	6	8	16	11	16	3	27	4	1	2
S. W. ...	4	9	19	19	6	7	6	8	8	5	3	
W. S. W ...		7	1	4	1	1	2	1	3	5	6	8
West ...	15	22	32	10	5		2			3	1	3
W. N. W. ...	4	4	4	4			1			6	4	9
N. W. ...	8	2	12	9			1		5	7	7	6
N. N. W. ...	20	14	3	4	1		1		2	6	10	15
Calm ...	8	24	26	17	7		10	12	15	45	42	36
Mean Diurnal Velocity in miles ...	38·7	40·6	70·8	98·5	115·8	145·2	101·3	65·8	70·0	38·3	26·5	35·7

GYA.

Four observations daily.

	January.	February.	March.	April.	May.	June	July	August	September.	October.	November.	December.
North ...	10	14	3	2	17	15	2	1	10	7	7	8
N. N. E. ...	2											
N. E. ...	9	2	2	2	7	16	8	10	5	12	6	3
E. N. E. ...	2					2	2			2		
East ...	21	7	4	15	36	48	34	34	22	7	9	6
E. S. E. ...	1					1						
S. E. ...	7	5	4	5	5	7	21	17	20	14	15	7
S. S. E. ...						1						
South ...	5	6	10	11	5	7	19	10	18	8	7	21
S. S. W. ...						1						
S. W. ...	4	6	16	9	2	2	7	7	2	1	1	
W. S. W. ...												
West ..	12	29	34	23	7		11	9	5	13	1	9
W. N. W. ...	1	2	2		1							
N. W. ...	23	12	24	23	19	12	2	3	5	15	21	26
N. N. W. ...												
Calm ..	27	33	25	30	24	8	14	32	31	45	52	44

Mean Diurnal Velocity in miles ...	49·2	57·6	95·7	78·9	83·4	96·2	92·1	44·2	50·9	30·3	20·9	21·3

PATNA.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...										1		
N. N. E. ...	1	3		3	12	3	2	2	3	22	10	4
N. E. ...				1						9	6	
E. N. E. ...	7	8		23	36	33	23	13	12	18	16	4
East ...									2	3		
E. S. E. ...		6		4	8	7	4	7	11	3	4	
S. E. ...	1	2		3	1	2		5	7	2	3	
S. S. E. ...									1			
South ...						1				2		
S. S. W. ...		2	1	1	1		2		3	8	11	1
S. W. ...										3	2	1
W. S. W. ...	3	5	3	5	1		2		5	8	13	16
West ...										1		
W. N. W. ...	19	19	53	35	10		2	2	10	4	15	48
N. W. ...									1	2	3	2
N. N. W. ...	3	1	3	1	10		1		6	6	10	15
Calm ...	90	70	64	44	45	74	88	95	59	32	27	33

Mean Diurnal Velocity in miles ...	58·7	103·8	130·5	181·3	175·1	82·7	68·8	88·1	23·4	21·3	23·6	22·6

MONGHYR.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	6	1	5	8		1	2	3	6	13	2
N. N. E. ...	6	3	1	6	5	1	3	2	6	3	2	5
N. E. ...	4	2	2	10	19	22	4	9	8	16	5	1
E. N. E. ...	6	4	4	6	8	27	5	3	4	4		
East ...	9	5	3	9	39	38	56	44	15	14		1
E. S. E. ...		5	1	4	3	14	7	9	6	1	1	
S. E. ...	1	1	1	2		4	6	8	4		1	
S. S. E. ...				1		1	5	2				
South ...	2	1	1			4	4		2			7
S. S. W. ...	3	2	3	5		2	3	4	2	3	2	4
S. W. ...	15	26	30	11	8	2	11	5	12	11	33	32
W. S. W. ...	13	11	8	4	3		1	3	3	7	9	7
West ...	19	18	24	19	6	4	5	4	10	14	20	44
W. N. W. ...	9	6	14	5	1	1	1			2		1
N. W. ...	7	5	12	15	6		1	1		2	10	
N. N. W. ...	3	1	2	4	7			2	1		1	3
Calm ...	23	20	17	14	11		11	22	39	40	23	16
Mean Diurnal Velocity in miles ...	43·7	55·1	65·4	92 9	84·6	82·7	68·8	88·1	23·4	21·3	23·6	22·6

DARJEELING.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1	3	4	1	5					1	1	3
N. N. E. ...												2
N. E. ...	1	3	5	2	2		1	1	1	3	3	2
E. N. E. ...	1	1										
East ...	20	13	21	15	13	22	47	25	16	21	14	13
E. S. E. ...	10	3	2	4		5	8	7	1	4	4	5
S. E. ...	4	6	13	3	10	13	13	8	12	14	22	17
S. S. E. ...	3	4	2	1	4	4	2	7		2	3	8
South ...	2	3	6	6	10	5	2	6	10	7	11	14
S. S. W. ...			1	1	4	4		1	3	4	3	5
S. W. ...	7	7	5	8	4	11	7	9	12	5	11	10
W. S. W. ...	9	6	8	7	4	2	2	6	4	5	5	4
West ...	48	45	41	48	46	44	37	44	39	37	27	26
W. N. W. ...	2	3	2	3	4	2	4	3	8	4	2	2
N. W. ...	14	17	12	20	17	8	1	6	13	17	6	6
N. N. W. ...												
Calm ...	2	2	2	1	1			1	1		8	7

GOALPARAH.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	6	5	4	6	2		5					
N. N. E. ...	2		2	3			5	5	1	5	1	2
N. E. ...		8	4	3	7	6	2	2	6	9	3	11
E. N. E. ...	8	15	16	19	13	11	11		7	18	11	6
East ...	54	47	54	55	61	46	53	14	52	59	59	50
E. S. E. ...	11	6	8	1	3	13	6	6	6	9	22	16
S. E. ...		6	8	6	12	5	9	5	7	4	7	5
S. S. E. ...	2	2		1	2	9	7	2	1		1	7
South ...				2	13	21	15	15	8	3		4
S. S. W. ...	4	4	3	2		4	2	2	2	2	5	2
S. W. ...	11	5	2	12	4	3	6	16	9	6	4	2
W. S. W. ...	5	9	9	6	5	1		6	3		3	14
West ...	17	5	9	2	2	1	2	35	12	9	3	3
W. N. W. ...	2	1		1				12	2			1
N. W. ...	2	3	3						3			1
N. N. W. ...			2	1			1	1	1		1	
Calm ...												

Mean Diurnal Velocity in miles ...	71·9	85·0	141·2	182·6	195·3	126·4	125·2	135·8	?	?	?	

SHILLONG.

November three observations, other months four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	12	21	7	6	1	3	3	7	2	7	17	9
N. N. E. ...	2	5	4	3								
N E. ...	1	1						1	1	2		5
E. N. E. ...	2			1					1	1		2
East ...	5	2		2	1	2	7	5	5	8	10	13
E. S. E. ...	3					3	3	2	5		7	3
S. E. ...						3	1		2			1
S. S. E. ...	3	2			1	1						
South ...	7	8	25	28	22	27	28	7	8	6	3	1
S. S. W. ...	4	13	20	27	17	18	12	10	6	3		
S. W. ...	1	4	3	11	6	4	5	3	2			1
W. S. W. ...	4	9	11	6	4	5	3	4	5	3		1
West ...	6	12	11	9	11	7	4	7	11	3	3	7
W. N. W. ...	8	12	13	2	15	6	2	13	4	8	7	8
N. W. ...	21	14	14	11	13	2	4	8	3	10	6	4
N. N. W. ...	26	7	5	9	2			1		1	4	19
Calm ...	19	6	11	5	31	39	52	56	65	52	33	47
Mean Diurnal Velocity in miles ...	60·8	95·7	151·1	202·2	101·3	85·5	50·6	39·2	54·5	47·1	49·2	41·1

BENARES.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	4	9	4	8	10	7	4	2	4	5		2
N. N. E. ...												
N. E. ...	24	21	4	1	2	2	2	2		1	6	
E. N. E. ...												
East ...	22	8	2	4	8	16	24	7	2	5	14	5
E. S. E. ...												
S. E. ...	2	7	3	4	22	24	22	34	25	6	3	2
S. S. E. ...												
South ...	1	5	7	8	18	33	12	23	13	5	2	
S. S. W. ...												
S. W. ...	4	7	10	13	3	5	27	23	14	15	16	8
W. S. W. ...												
West ...	19	24	58	47	29	9	18	7	8	21	28	47
W. N. W. ...												
N. W. ..	10	17	18	19	20	12	4	2	15	13	3	6
N. N. W. ...												
Calm ...	34	16	14	16	11	10	7	21	37	28	47	52

Mean Diurnal Velocity in miles	38·6	64·7	86·0	77·6	97·8	104·7	116·2	78·7	59·9	43·6	28·6	28·0

ROORKEE.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North ...	1			1					1			1
N. N. E. ...												
N. E. ...	11	16	7	19	10	7	4	6	2	5	7	6
E. N. E. ...												
East ...	1	1		2	1	2	1		1	2		1
E. S. E. ...												
S. E. ...	11	5	2	8	27	41	35	36	21	17	13	17
S. S. E. ...												
South ...	2					1	1		2			
S. S. W. ...												
S. W. ...	1	3	3	2			1	4	11	9	13	8
W. S. W. ...												
West ...									7	2		7
W. N. W. ...												
N. W. ...	25	32	33	22	22	13	8	2	2	1	5	3
N. N. W. ...												
Calm ...	72	59	79	66	64	56	74	76	73	88	82	81

Mean Diurnal Velocity in miles ...	44·6	66·7	41·7	50·6	63·3	94·4	98·5	81·7	50·8	33·7	30·4	43·1

Table XXVI—Wind

	January.		February.		March.		April.		May.	
Port Blair	84	N 31 E	82	N 27 E	80	N 48 E	67	N 66 E	82	S 36 W
Madras	81	N 55 E	71	S 63 E	87	S 29 E	83	S 39 E	58	S 11 W
Vizagapatam	61	S 79 E	46	S 8 W	64	S 53 W	62	S 42 W	54	S 33 W
Akyab	35	N 24 W	57	N 22 W	36	N 75 W	47	N 74 W	29	S 14 W
False Point	24	S 73 E	30	S 41 W	73	S 49 W	81	S 45 W	85	S 37 W
Cuttack	37	S 40 E	34	S 5 E	43	S 8 W	36	S 69 W	69	S 4 W
Saugor Island	11	N 49 W	32	S 25 W	70	S 35 W	81	S 32 W	85	S 15 W
Chittagong	68	N 40 W	41	N 22 W	33	S 38 W	27	S 36 W	32	S 4 W
Calcutta	29	N 64 W	41	S 63 W	78	S 33 W	81	S 16 W	77	S 3 W
Jessore	35	N 3 E	13	S 61 W	58	S 45 W	58	S 16 W	61	S 18 E
Dacca	28	N 38 W	26	S 83 W	54	S 14 W	53	S 6 E	72	S 28 E
Silchar	31	S 65 E	34	S 71 E	20	S 66 E	37	N 86 E	16	S 86 E
Hazareebaugh	50	N 42 W	63	N 48 W	77	N 62 W	60	N 65 W	34	N 52 W
Berhampore	53	N 13 W	30	N 61 W	44	N 89 W	16	S 47 W	53	S 52 E
Gya...	18	N 9 E	29	N 71 W	45	S 88 W	21	S 87 W	27	N 40 E
Patna	15	N 50 W	9	N 50 W	46	N 68 W	18	N 23 W	36	N 43 E
Monghyr	30	N 82 W	35	S 76 W	54	S 82 W	22	N 47 W	43	N 52 E
Darjeeling	31	S 79 W	39	S 89 W	22	S 71 W	46	S 87 W	38	S 79 W
Goalparah	32	S 80 E	48	E	51	N 87 E	53	S 89 E	66	S 77 E
Shillong	41	N 38 W	43	N 67 W	46	S 69 W	46	S 48 W	44	S 62 W
Benares	21	N 26 E	22	N 32 W	57	N 87 W	52	N 88 W	18	S 63 W
Roorkee	13	N 6 W	25	N 17 W	25	N 37 W	19	N 10 E	10	N 73 E
Agra	...	N14°30'W	...	N 69 W	.	N 63 W	...	N 84 W	...	N 72 W
Nagpore	35	S 29 E	10	S 75 W	29	S 60 E	35	S 34 W	43	N 45 W
Jubbulpore	24	N 27 E	33	N 3 W	21	S 72 W	24	S 29 E	37	N 58 W

Resultants for 1872.

June.		July.		August.		September.		October.		November.		December.	
74	S 9 W	95	S 44 W	89	S 39 W	70	S 39 W	33	S 14 E	81	N 52 E	85	N 38 E
47	S 34 W	50	S 63 W	72	S 63 W	47	S 39 W	26	N 28 W	78	N 22 E	79	N 43 E
50	S 38 W	73	S 74 W	73	S 76 W	42	S 54 W	32	N 86 E	60	N 74 E	46	N 65 E
72	S 12 E	71	S 4 E	73	S 2 E	27	S 20 W	21	S 27 E	43	N 26 W	53	N 52 W
58	S 46 W	58	S 53 W	50	S 46 W	48	S 8 W	37	N 43 E	73	N 19 E	56	N 33 E
58	S 36 W	45	S 37 W	55	S 28 W	23	S 9 E	43	N 26 E	75	N 30 W	31	N 1 E
57	S 11 E	59	S 12 W	60	S 9 W	48	S 8 W	24	N 43 E	79	N 6 E	...	.....
39	S 10 E	52	S 35 E	69	S 43 E	35	S 42 E	17	N 35 W	72	N 41 W	71	N 39 W
75	S 26 E	70	S	77	S 3 E	55	S 6 W	31	N 78 E	73	N 7 E	72	N 25 E
81	S 19 E	71	S 9 E	79	S 11 E	57	S 13 E	24	S 31 E	54	N 7 W	52	N 20 W
78	S 32 E	77	S 16 E	81	S 19 E	58	S 12 W	12	N 72 E	69	N 25 W	60	N 41 W
8	N 47 E	6	S 71 E	6	S 44 W	16	S 72 E	19	S 62 E	33	N 83 E	16	S 71 E
40	S 18 E	21	S 42 E	35	S 34 E	11	S 13 E	...	.....	46	N 27 W	73	N 47 W
62	S 52 E	58	S 40 E	71	S 51 E	36	S 24 E	11	N 7 W	41	N 14 W	50	N 19 W
50	N 70 E	39	S 53 E	33	S 65 E	29	S 61 E	7	N 19 E	9	N 43 E	12	N 80 W
34	N 75 E	18	N 68 E	17	N 86 E	10	N 77 E	25	N 34 E	16	N 28 W	56	N 63 W
75	N 80 E	53	S 75 E	46	S 84 E	11	S 84 E	8	N 9 W	45	S 86 W	63	S 71 W
29	S 45 W	20	S 41 E	27	S 43 W	39	S 66 W	23	S 63 W	30	S 16 W	31	S 15 W
68	S 64 E	61	S 74 E	37	S 54 W	41	S 74 E	65	N 88 E	73	S 80 E	54	S 76 E
42	S 24 W	32	S 14 W	22	S 87 W	15	S 43 W	14	N 49 W	24	N 3 E	27	N 7 W
32	S 20 E	31	S 1 E	49	S 7 E	23	S 19 W	32	S 81 W	19	S 67 W	41	S 89 W
26	S 59 E	23	S 51 E	27	S 48 E	17	S 3 E	13	S 31 E	8	S 8 E	9	S 13 E
...	N 10 E	...	S 87 E	...	N 15°W	...	N 66 W	...	N 78 W	...	N 61 W	...	N 79 W
33	S 78 W	66	S 59 W	62	N 61 W	41	N 28 E	83	N 29 E	69	N 55 E	74	N 63 E
49	S 58 W	40	S 63 W	52	S 49 W	8	S 25 W	3	N 4 W	18	N 42 E	20	N 58 E

Table XXVII.—Average Wind

	Years.	January.		February.		March.		April.		May.	
		%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.
Akyab ...	3	44·7	N 14 W	51·5	N 11 W	36·7	N 22 W	30·3	N 72 W	22·8	S 46 W
False Point ...	3	44	N 55 E	16	S 37 W	51	S 52 W	77	S 42 W	83	S 35 W
Cuttack ...	3	25	S 68 E	23	S 18 E	47	S 2 W	63	S 3 W	75	S 7 E
Saugor Island ...	3	30	N 4 E	38	S 54 W	62	S 40 W	76	S 22 W	82	S 6 W
Calcutta ...	10	40	N 38 W	23	S 79 W	47	S 33 W	74	S 3 W	65	S 12 E
Chittagong ...	3	19·4	N 34 W	22·6	N 43 W	31·0	S 79 W	39·5	S 21 W	40·9	S 6 W
Dacca ...	3	40	N 45 W	37	S 80 W	48	S 32 W	48	S 5 E	65	S 24 E
Hazareebaugh ...	3	60	N 70 W	58	N 77 W	61	N 85 W	32	S 89 W	17	S 36 W
Berhampore ...	3	57	N 40 W	38	N 68 W	51	S 72 W	32	S 7 W	40	S 43 E
Patna ...	3-4	15	N 71 W	16	N 60 W	30	N 61 W	24	N 12 W	30	N 33 E
Goalparah ...	3	30	S 86 E	30	S 88 E	27	N 75 E	45	N 88 E	58	S 86 E
Benares ...	6-7	33	N 75 W	37	N 87 W	38	N 76 W	37	N 70 W	24	N 14 W
Jhansi ...	3-6	20	N 19 W	20	N 70 W	12	S 40 W	28	S 84 W	33	N 62 W
Roorkee ...	7	18	N 63 W	25	N 22 W	27	N 59 W	14	N 81 W	11	S 30 W
Agra ...	6-7	27	N 56 W	36	N 62 W	37	N 55 W	29	N 79 W	26	N 68 W
Nagpore ...	3	43	N 74 E	16	N 70 E	6	S 15 W	24	N 59 W	47	N 40 W
Jubbulpore ...	3	27	N 6 W	11	N 58 W	22	S 79 W	34	N 68 W	41	N 76 W

Table XXVIII.—Average Diurnal

	January.		February.		March.		April.		May.	
	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.
Cuttack	1	38·6	1	66·7	1	85·1	2	123·3	2	137·0
Saugor Island	2	126·0	3	192·5	3	231·4	3	394·1	3	344·8
Calcutta	3	104·5	3	114·8	4	133·1	4	203·9	4	209·7
Chittagong	3	134·4	3	131·8	3	143·6	3	189·4	3	188·9
Dacca	3	46 2	3	60·2	3	92·8	3	149·2	3	167·6
Hazareebaugh	3	98·0	3	131·4	3	147·6	3	168·4	3	187·3
Berhampore	2	37·2	2	41·4	2	56·5	2	88·7	2	99·7
Patna	2	64·6	2	72·8	2	96·2	2	144·2	2	138·7
Goalparah	3	90·2	3	129·0	3	167·9	3	196·2	3	173 0
Benares	3	55·6	3	73·3	3	66·2	3	62·9	3	87·3
Roorkee	4	40·2	4	47·0	3	51·5	3	64·7	3	73·8
Nagpore	2	70·1	2	85·8	2	99·9	3	116·4	2	162·1
Jubbulpore	2	61·3	2	50·7	2	83·3	3	93·1	3	123·1

Resultants of several stations.

June.		July.		August.		September.		October.		November.		December.	
%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.
51·7	S 5 W	71·7	S 13 E	54·5	S 1 E	42·2	S 13 E	10·4	S 38 E	32·5	N 13 W	30·4	N 6 W
69	S 42 W	76	S 63 W	54	S 72 W	34	S 40 W	21	N 53 E	58	N 28 E	57	N 28 E
56	S 8 W	52	S 39 W	54	S 44 W	25	S 24 E	30	N 51 E	51	N 16 W	27	N 1 W
73	S 15 W	71	S 20 W	60	S 28 W	58	S 4 E	5	N 81 W	60	N 3 E	49	N 5 E
58	S 5 E	65	S 12 E	55	S 18 E	40	S 30 E	13	N 53 W	58	N 19 W	60	N 27 W
61·4	S 33 E	69·6	S 40 E	54·1	S 31 E	42·3	S 34 E	6·9	N 21 E	40·2	N 2 E	52·4	N 19 W
78	S 18 E	88	S 23 E	75	S 6 E	64	S 23 E	3	S 23 E	36	N 1 W	47	N 28 W
35	S 6 W	31	S 13 E	32	S 58 W	36	S 50 E	34	N 66 W	62	N 50 W	62	N 66 W
47	S 35 E	56	S 49 E	41	S 59 E	49	S 76 E	13	N 19 E	56	N 34 W	71	N 30 W
19	N 57 E	11	N 67 E	14	S 41 E	26	S 82 E	4	N 13 E	12	N 37 W	9	N 69 W
21	S 78 E	20	S 23 E	23	S 29 E	23	S 71 E	43	S 74 E	63	S 88 E	58	S 86 E
14	N 13 W	6	S 28 E	4	S 67 W	5	N 69 E	27	N 68 W	38	N 69 W	16	N 62 W
18	N 72 W	33	S 81 W	17	W	38	N 51 W	28	N 59 W	25	N 53 W	20	N 8 W
5	S 17 W	34	S 43 E	23	S 41 E	3	N 80 W	7	S 32 E	4	S 13 E	15	N 60 W
21	N 48 W	20	N 48 E	14	S 37 E	17	N 24 W	27	N 85 W	21	S 78 W	20	N 65 W
58	N 74 W	73	N 89 W	62	N 80 W	42	N 49 W	56	N 38 E	62	N 68 E	57	N 76 E
74	S 85 W	80	S 86 W	75	S 83 W	39	N 64 W	16	N 29 W	28	N 42 E	21	N 50 E

Movement of Wind in Miles.

June.		July.		August.		September.		October.		November.		December.	
Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.	Yrs.	Miles.
2	134·8	2	94·2	2	78·2	2	78·0	2	56·0	2	35·9	2	34·8
2	204·1	2	254·8	2	261·8	2	242·3	2	135·5	2	103·0		
4	198·3	4	157·5	4	138·9	4	131·7	4	87·0	4	82·1	4	91·2
3	199·7	3	195·2	3	160·7	3	132·8	3	102·6	3	106·2	3	120·2
3	228·6	3	213·7	3	159·0	3	129·0	3	62·2	3	37·4	3	42·7
3	184·6	3	152·3	3	131·9	3	129·2	3	103·5	3	91·1	3	92·7
2	128·9	2	99·4	2	78·1	2	75·6	2	47·7	2	29·0	2	28.1
2	90·3	2	81·2	2	81·1	2	84·4	2	50·1	2	51·7	2	34·4
3	127·1	3	91·7	3	106·1	3	126·7	3	97·7	3	102·1	3	84·2
3	95·2	3	73·4	3	69·7	3	58·3	3	60·9	3	25·0	3	34·2
4	72·7	4	53·4	4	38·1	4	27·3	4	18·2	5	19·2	6	25·4
3	163·4	3	156·5	3	122·9	3	120·4	3	88·7	3	71·4	3	59·7
3	145·7	3	132·0	3	123·0	3	92·0	3	52·7	2	47·1	3	55·8

In the report for 1871 it was observed, that "in October and November of that year, the land-winds set in much as usual in Behar and the North-Western Provinces; but in Bengal they were far less steady, and up to nearly the close of the year, the westerly or north-westerly winds were decidedly weaker than on the average." January 1872 was equally characterized by this weakness or partial failure of the usual land-winds from the Upper Provinces. On the coast of Orissa and the Northern Circars the winds were rather southerly than northerly, and at Nagpore there was a decided preponderance of southerly elements. In February the land-winds strengthened in the Gangetic valley, but on the Madras coast the north east monsoon had ceased; southerly breezes prevailed, and the tendency to an anticyclonic circulation* of the wind round the Bay of Bengal was greater than usual. In March the course of the winds was about what is usual in this month, except that southerly elements were somewhat more in excess.

In April the abnormally high pressure at Nagpore, and the low pressure in Orissa produced a remarkable preponderance of north-west winds at Cuttack; and in this and the following month, westerly winds were more than usually prevalent at Hazareebaugh and Benares. In the Central Provinces, on the other hand, the direction of the prevailing currents, which is usually from north, north-west, and west, continued to predominate from south; and in April, at Nagpore, from east.

In June westerly elements continued to preponderate in Orissa, but were deficient in the Central Provinces, where the wind remained southerly. On the Arakan coast, in the Gangetic delta and plain of Behar, and the North-Western Provinces, south and east winds were unusually predominant.

In July the excessive southerly character of the winds in Ceneral India, and even up to Benares, was very marked, but in Bengal the average direction was about normal. In August the same state of things prevailed, and the westerly winds that are usually marked in Central India, Orissa, and Western Bengal in this month, were either very weak or altogether wanting, indicating the absence of the usual monsoon from the west coast. September was similarly characterized.

In the last two months of the year, in ordinary seasons, cool westerly winds set in steadily from the Upper Provinces, being, as I have shown elsewhere, the outflow of air cooled by radiation on the plains of the interior, and forming the source of the winter monsoon of the circumjacent seas. But in 1872 westerly winds were as remarkably deficient as they had been during the greater part of the year, while at stations in and near the Himalaya, southerly winds were as unduly prevalent as they had been previously in the Central Provinces. There was, therefore, an apparent failure of the winter monsoon, as there had been previously of the south-west monsoon in Eastern India.

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* That is a circulation in the reverse direction to that which obtains in cyclones, the motion in the northern hemisphere being coincident with that of the hands of a clock. The term *anticyclone* was introduced by Mr. Galton in his 'Meteorographica.'

Summary.

The most striking characteristics of the meteorology of 1872 in Bengal were the general deficiency of rainfall, and the weakness of westerly winds. The latter peculiarity was even more strongly marked in the Central Provinces, but the rainfall there was abundant. In Orissa the rainfall was also abundant in the monsoon months, following upon an unusually high temperature, and low pressure in the earlier months of the year. Storms were of greater frequency than usual in the Bay of Bengal, both at the beginning and ending of the monsoon, and the atmospheric pressure over the northern part of the Bay was low during the greater part of the year. In the south-east of the Bay, on the other hand, the pressure was unusually high up to the close of the south-west monsoon, but especially in the first six months of the year. Lastly, in Rajputana, to judge from the registers of the two stations, Agra and Jhansi, there appears to have been an unusually high temperature and low pressure during the first five months of the year, and again during the last three. How far this extended, there are no data to show; but a very unusual depression in this region would have the effect of rendering the winds of the Central Provinces more southerly than usual, especially if the pressure in the latter area were (as it appears to have been) in excess of the average. It would further explain the deficiency of westerly winds in Bengal, which was so marked during the greater part of the year.

The deficiency of rainfall in Bengal is, I think, to be attributed partly to this cause also, since in ordinary years a certain proportion of rain reaches Bengal with the westerly winds from the Bombay coast. Such is the case more particularly in Western Bengal and Orissa; but during the monsoon of 1872 these winds were scarcely felt. On the other hand, the low pressure in Orissa and over the Bay would tend to arrest those rain-bearing winds which come from the south and south-west, so that rain from this quarter would also be deficient in Bengal.

In the present state of our knowledge, little more can be done than to indicate such partial interdependence of local irregularities as the above. Until something more is known of the normal and abnormal meteorology of the Punjab, Western and Southern India, it would be futile to attempt any comprehensive discussion of the peculiarities of any given season.

Storms.

It has been observed above that storms were of somewhat unusual frequency in the Bay of Bengal in 1872. On the 2nd May a severe cyclone passed over Madras, (the centre a little to the south of it), causing great destruction to the shipping in the roads. Again, in the latter part of June, stormy weather was very prevalent in the north of the Bay, and on the 28th a cyclone was formed which passed across the head of the Bay and near the station of Balasore on the 1st of July. In September, again, stormy weather prevailed, and a cyclone passed northward across Bengal on the night of the 19th—20th. And lastly, in October, the weather was unusually stormy on the

Madras coast, and generally in the south of the Bay, and more than one cyclone was reported at sea, of which, however, I have no other information than that given by a brief newspaper paragraph. One cyclone on the 26th October passed across the Island of Narcondam, (as already mentioned at page 27,) and to judge from its effects, must have been of great severity.

Cyclone of 29th April to 2nd May.—This storm has been described in a short memoir, drawn up by Mr. T. E. Marshall, First Assistant to the Master Attendant of Madras. The writer concludes that the vortex was formed on the 29th April, about in latitude 10° N, longitude 83°30′ E, and that it travelled thence slowly, at first to WSW, afterwards to the NW, reaching the coast south of Madras on the forenoon of the 2nd May.

I find, however, from the logs of several ships, for which I am indebted to the late Captain Boon, that a vortex was generated on the afternoon of the 28th, about in N latitude 7°30′ E, longitude 84°; and, as is frequently the case in these storms, another was formed ahead, and about in the position indicated above, on the 29th. The French barque *Louise* was involved in the former on the afternoon of the 28th, and lost several sails. The *City of Delhi* on the afternoon of the same day was on its southern margin, with wind from west to south, afterwards south-west; and the *Staffordshire* ran round the southern margin of the storm, the wind changing from NW through W to SW.

For several days previous to the 28th, light variable winds, chiefly from between SE, and SW, with sultry weather and occasional rain, had prevailed to the east of Ceylon, and several ships that passed up between the 23rd and 27th instant, met with no other signs than those of the approaching bad weather. But to the south, down to about 7° S latitude, the winds were variable, and westerly or northerly, with frequent heavy squalls, alternating with calms and light airs. On the Bombay coast there had been gentle and light breezes from between SW, and NW, and clear weather. Of the state of atmospheric pressure over the sea nothing can be ascertained satisfactorily, as none of the instruments registered can be corrected to any known standard.

Very few indications of this storm were felt anywhere to the north of Masulipatam or in the eastern part of the Bay. At Vizagapatam the wind was chiefly from between south and west up to the morning of the 30th April, when it shifted to east, blowing light, and it remained in that quarter till the morning of the 2nd May, when it veered to SE by E, still very light. The barometer was very slightly affected. Between the 28th and 30th April it fell from 29·768 to 29·704 only, and rose again on the four days following. At Port Blair the wind was easterly (changing between NE and SE) in the latter part of April, and the weather hot and close, becoming cloudy in the evening, up to the 29th. On this day heavy rain fell, with a strong breeze from SW. The barometer was high for the term of year, and affected to the same extent only as at Vizagapatam. The mean pressures on the 29th (reduced to the sea-level) at Madras, Vizagapatam, and Port Blair, were as follow:—

	Inches.
Madras	29·736
Vizagapatam	29·754
Port Blair	29·832

The following details are taken from Mr. Marshall's memoir. At Pondicherry, on the 29th, the wind shifted to NE, and at Negapatam to north. The ship *Her Majesty*, being at noon about 110 miles to SE of Madras, experienced a sudden change in the weather, "the sky becoming completely overcast, of a brick-dust yellow appearance, the clouds seeming to be near the water." Her barometer fell from* 29·80 to 29·60 in the course of half an hour. The wind was NNE. Another ship, the *Indian Merchant*, was in latitude 9°51′ N, longitude 82°24′ E; very close therefore to the supposed place of the storm's origin. She had the wind at north rapidly veering to NW in heavy squalls, and "a falling barometer standing at 29·57." On the afternoon of this day she scudded southwards across the path of the storm, which appears then to have been moving to the west, and suffered severely, having her sails blown away, and being thrown on her beam ends. By daylight of the 30th the gale had moderated, and at noon the wind was SSW. She then bore up to NW, being now to eastward of the cyclone truck ; but on the 1st May was again overtaken by the storm and got into its central calm: she escaped however, and eventually reached Madras. The ship *Her Majesty*, steering to SE, also passed very near the centre on the 1st May, and suffered severely, being thrown on her beam ends, and loosing boats and sails. Her barometer fell to 92·13.

Two P. & O. Steamers, the *Mongolia* and the *Peshawur*, on their voyages between Madras and Galle in opposite directions, encountered the cyclone, but by skilful management were both kept out of the worst of the storm.

The centre of the storm reached the coast about Madras on the morning of the 2nd May. At Madras, about 40 miles to the northward, the lowest pressure of the barometer was at 8 a.m. of this day, when it stood at 29·285. The highest velocity of the wind recorded by a Beckly's anemometer was 53 miles in the hour, irr. from 7 to 8 a.m., when the wind was at NE and rapidly veering. The rainfall was comparatively small, 2·08 inches having been recorded on the 1st and 2·07 inches on the 2nd May.

From the coast the cyclone advanced inland, in a direction almost due west, and was in a great measure broken up among the hills of the interior, on which large quantities of rain were discharged, causing a most disastrous flood at Vellore.

At Calicut however, on the west coast, it was distinctly felt on the 3rd May, on the afternoon of which day it blew in heavy squalls from WNW ; and at Bombay the trace of the self-registering barometer at the Colaba Observatory shows a distinct depression on the same date.

Storm of the 28th June—1st July.—A very complete discussion of the meteorology of this storm has been given by Mr. W. G. Willson, who was officiating at the time as Meteorological Reporter to the Government of Bengal, in a special report submitted to Government in August last. I shall here give an outline of the results, with some quotations from the original report.

* It does not appear that any of these readings have been corrected for the error of the instrument or reduced.

"On the 16th of June the atmospheric pressure round the Bay of Bengal was unusually high, and its distribution abnormal. This will be seen from the following table, in which the barometric heights, reduced for temperature and sea-level, are compared with the average heights in the month of June, for several years, similarly reduced :—

	Mean Pressure, 16th June.	Average Pressure in June.
Calcutta	29·766	29·570
Saugor Island	29·769	29·563
Cuttack	29·749	29·630
Chittagong	29·804	29·629
Akyab	29·794	29·710
Madras	29.728	29·698

"The barometric gradient between Madras and Saugor Island, which accompanies the SW monsoon, was thus reversed in direction, and, as a consequence, light variable winds prevailed in the north of the Bay," and but little rain fell in Bengal.

"On the 16th of June a change took place. The barometer began to fall at Akyab, Cuttack, and Chittagong, on that day, and on the 17th at Saugor Island and Calcutta. From this, with the exception of a very slight tendency to rise on the 19th, the barometer fell steadily in the north of the Bay, while at Madras it continued to range at about the average for the season.

"There was nothing exceptional in this fall until June 22nd and 23rd. On the latter date the atmospheric pressure in the north of the Bay was considerably lower than the average for the season, and light variable winds had prevailed for some days; at Calcutta from SE to E by N; at Saugor Island from SE to E; at Cuttack from NNE* through N, round to W." At Port Blair the wind has been steady from SW, and at Akyab and Chittagong, chiefly from S and SE, gradually increasing in velocity.

On this day the pressures around the Bay and in Lower Bengal were as follow :—

	Ins.		Ins.
Port Blair	29·631	Calcutta	29·471
Akyab	·589	Saugor Island	·428
Chittagong	·571	Cuttack	·449
Dacca	·541	False Point	·360
Jessore	·492	Vizagapatam	·526
Berhampore	·505	Madras	·733

On the same day the *Sophia Joakim* in N latitude 20°40′, E longitude 88°5′, or about 80 miles east of False Point, records a pressure of 29·13,* and an easterly wind, moderate in the morning, strong and squally at noon, veering to SSW by the evening, with rain, and blowing a strong gale apparently from the same quarter at midnight. The *Scimitar*, about 80 miles to the SW of this ship, registers a pressure of 29·37, and an increasing breeze veering from ENE. to SW and WSW by nightfall, and increasing to a gale. The *Coldstream* in N latitude 14°26′, E longitude 86°29′, had her barometer at 29·35, and a strong

* Rather from ESE (which was the prevalent direction on the 20th) through ENE to NE, &c.

† This reading has been corrected to the Calcutta standard and reduced for the False Point temperature.

gale from west. Other ships in the neighbourhood give confirmatory logs, so that there is little doubt that the first-mentioned ship was about at the spot of minimum pressure, unless, indeed, it lay a little more to the eastward, accounts being wanting from that quarter. The interesting point in evidence in these registers is, that an eddy or incipient cyclonic vortex was evidently formed just off False Point. At this station the wind was NE in the morning, and NW at night, becoming W and finally WSW on the following day; at Saugor Point it was ESE all day. This eddy came to nothing, probably because it was too close under the lea of the land for the WSW wind to reach it with unabated force. (*Compare the gale of 19th, 20th June* 1870. *Report for* 1870, *page* 115).

On the succeeding days the barometer continued to fall at the stations around the bay, as well as over the bay itself, according to the evidence of ship's logs. The pressures on the 25th were.

Port Blair	29·621	Calcutta	29·347
Akyab'	·465	Saugor Island	·313
Chittagong	·450	Cuttack...	·403
Dacca	·410	False Point	·361
Jessore	·370	Vizagapatam	·510
Berhampore	·385	Madras	·701

The lowest pressure was therefore at Saugor Island. But at sea still lower pressures are recorded as follow :—

	N. Lat.	E. Long.	Barometer.
'Sophia Joakim'	20°47′	90°21′	29·083
'Coldstream'	16°54′	87°23′	29·336
'Scimitar'*	?	?	29·28
'Meteor,' F. L. V.	Lower Gasper Station		29·30

The winds were now at Port Blair SW; at Akyab south; at Chittagong between east and south; in Lower Bengal ESE and SE; at Saugor Island changing through from ENE by south to west, and light; at Cuttack between WSW and SSW; at False Point steady from W; and at Vizagapatam SW. At Madras it had been for several days between W by S and SW. The *Sophia Joakim*, in about the same latitude as on the 23rd, but $2\frac{1}{4}$ degrees further east, had light or moderate winds from SW and heavy rain; the *Coldstream*, 300 miles to SSW of her, had a heavy gale from W and WSW, and rain pouring down "in one sheet of water." This ship had now had a strong gale from W and WSW for three days.

The state of the winds and weather on this day is very instructive as bearing on the genesis of the cyclone. There had been an area of relative minimum and very low absolute pressure for three days in the north of the bay, and a strong gale blowing from about WSW in the middle of the bay to the southward, but to the north of the depression, over Bengal, the wind was still light, and from ESE or SE; but yet no cyclone was formed. Over the depression as well as to the south the rain was exceedingly heavy, but the winds were light from SW. Consequently there must have been an ascending current

* This ship's position is not given. To judge from those of the previous and following days, it must have been about N. latitude 20°30′, E. longitude 87°45′.

over the area of depression, which the heavy rainfall must have helped to increase by the latent heat set free in the upper atmosphere. That no cyclone was yet formed must, I think, be attributed to the proximity of the land to the northward of the depression. The case seems to me strongly confirmatory of the views on the formation of cyclones in the Bay of Bengal, which I have more than once put forward.* The depression had now become such that to the north of it, the winds began on the 27th to have a northerly tendency, drawing in towards the depression, and the barometer rose at Port Blair and Akyab, and also at Vizagapatam and Madras, while it fell at Calcutta, Saugor Island, and False Point. On the 27th the pressures were as follow :—

	Barometer.	Change since 25th.		Barometer.	Change since 25th.
Port Blair ...	29·695	+·074	Calcutta ...	29·277	—·070
Akyab ...	·504	+·039	Saugor Island ...	·225	—·088
Chittagong ...	·403	—·047	Cuttack ...	·307	—·096
Dacca	·372	—·038	False Point ...	·275	—·086
Jessore ...	·322	—·048	Vizagapatam ...	·543	+·033
Berhampore ...	·345	—·040	Madras ...	·761	+·060

On the 28th the pressure rose at all the stations, with the single exception of False Point, where the mean pressure became the same as at Saugor Island. The wind at False Point veered during the day from NNW to WNW, blowing in heavy squalls, while at Saugor Island it was from between E and NE, both on the 27th and 28th, and at Calcutta from E. The velocity at Saugor Island, which had been 149 miles in the 24 hours on the 25th, increased gradually up to 431 miles on the 28th. The lowest pressure recorded on these days in the bay, is that of the *Coldstream, viz.*, 29·04, but her position is doubtful. The *West Ridge,* between 88° and 89° E. longtitude and 20° and 20°30, N. latitude, records 29·27 and 29·29 inches, and the F. L. Vessel *Meteor* at the lower Gasper station 25 miles, south of Saugor, 29·19. The *West Ridge* had a fresh gale all day backing from W by S to SW; the *Meteor* from between ENE and SE. The position of the vortex must have been therefore, between the two.

On the 29th, the general rise of pressure continued, except at Saugor Island, where the wind had increased to 536 miles in the 24 hours, and had backed to NE while at False Point it backed through two points more than on the previous day, and blew in hard squalls from W. The *Meteor* had a pressure of 29·16, slightly lower than on the previous day, and the wind backing from ESE to ENE. This shows that the vortex had moved a little away from False Point towards the north.

On the 30th the pressure at False Point remained about the same as on the 29th, while it fell all around; more however at the more distant stations than at those nearest to the vortex. The lowest pressure (on land) was still Saugor Island, *viz.*, 29·230. On board the *Meteor* F. L. V. it was 29·12. At False Point the wind veered from W to WNW; at Saugor, Island it was steady from

* See *Proc., Royal Soc., Vol. XVII., p.* 472, and *Report on the Winds of Northern India. Appendix on Cyclones.* Also in the previous Annual Reports.

NE, and on board the *Meteor* veering to E. from NNE. At 1 p.m. the *Coldstream* got into the central calm, but her position is not accurately fixed. The *Sophia Joakim*, which since the 23rd had kept away to the eastward, and on the 27th, was within 50 miles of Akyab, trying to run round the storm, also got into its centre at noon of the same day.

Mr. Willson gives the following approximate positions of the storm centre from 10 p.m. of this day, when the vortex began to move towards Balasore :—

		Latitude N.	Longitude E.
30th June.	10 p.m.	20°40′	87°55′
	11 „	20°50′	87°53′
	12 midnight.	20°55′	87°50′
1st July.	3 a.m.	21° 8′	87°45′
	5 „	21°10′	87°35′
	8 h. 30 a.m.	21° 9′	87°10′
	9 h. 30 „	21° 8′	87°
	11 a.m.	21° 7′	86°45′

The course of the storm appears, therefore, to have been first NW, then westerly, and finally a little to S of W about 14 or 15 miles an hour. The highest wind velocity recorded at Saugor Island was from 5 to 6 a.m. of the 1st July, when it was 57 miles an hour. But it was almost as great from 2h. 30 a.m., with the wind at ENE. The lowest pressure was at 3 a.m., *viz.*, 290·58. At Calcutta the lowest pressure was at 4 a.m., *viz.*, 29·279, (or 20·298, reduced to sea-level), with the wind from E veering slowly. Mr. Willson concludes that the storm passed a little to the south of Balasore about 9 a.m. At Cuttack to the south of the track the lowest pressure was at 1 and 2 p.m., the wind being from SW. The highest velocity of the wind was between noon and 1 p.m., *viz.*, 39·5 miles, and when the cyclone was moving west. It passed to NNW, and then NW, and finally broke up among the hills to the westward.

Mr. Willson observes—" The present storm was not one of great violence, and was unusually small in its dimensions ; its radius, probably, never exceeding 40 or 50 miles." It is the only storm that I have found on record, or that I have myself recorded, that has been generated so close to land in the NW corner of the bay, and I attribute to this fact, and to the high resistance offered by the land to the motion of the wind on the north and west, that it was so long in process of formation, so small, and so speedily broken up.

Storms of 11th and 19th—20th September.—The first of these was one of those small storms of short duration which are generated in the NE corner of the bay, and break up almost in the place where they are formed. Previous instances of the kind are the storms of the 1st May 1869, and the 30th May 1870.* For such information as I have of its character, I am indebted to Captain Ewert† of the B. I. S. N. Co.'s Steam Ship *Bushire*, who fell in with it on his voyage from Chittagong to Calcutta.

As in previous cases of the kind, it was preceded by a steady fall of the barometer in the NE of bay for several days. On the 4th, the mean pressure at Chittagong (reduced to sea-level,) was 29·928 inches; at Akyab 29·916 inches ; at Saugor Point 29·829 inches, and at Dacca 29·824 ; all being

* See Meteorological Reports for those years.

† The notices of the two other storms in the same region referred to above were based on information received from the same gentleman.

very much in excess of what is usual at the time of year. The winds were light and southerly, and from the 4th to the 7th about 5 inches of rain fell at Chittagong, and about half as much at Akyab; but none at Saugor, and very little at False Point. From the 4th to 11th the barometer fell steadily at all stations around the bay, except Port Blair, where it rose again on the 10th and 11th. On this latter date the pressures were as follow at sea-level:—

	Inches.	Fall since 4th. Ins.
Port Blair	29·786	0·125
Akyab	29 608	0 308
Chittagong	29·598	0·330
Dacca	29·629	0·161
Saugor Island	29·653	0·176
False Point	29·694	0·159

The lowest was therefore at Chittagong. The *Bushire* left that port at 2 p.m., the weather being hot and sultry, and the breeze moderate from the NW, on proceeding southwards, clouds began to rise to the SE, W, and NW. and a very heavy bank to S and E. At 6h. 30 p.m. heavy rain fell, with very vivid lightning. At 8-30 p.m., a breeze sprung up from SE, and by 10 p.m. was blowing very hard from the same quarter. The barometer had fallen 0·060 since leaving Chittagong. By midnight it blew a hard gale from ESE, with a high and increasing sea. The barometer continued to fall till 3 a.m. of the 12th, but even then the total fall since leaving Chittagong was only 0·14 inches, the actual presure (corrected and reduced) being 29·47 inches. About 5 the wind began to veer to SE by E, still blowing in heavy squalls, and the barometer had risen 0·02 in the two hours. At 7 it began to moderate, and by noon the sea was going down, and the barometer had risen to 29·68, the wind going round to SW. At Saugor Island the barometer was very low on the 12th (29·557 inches on the mean of the day), and during the afternoon and evening the average velocity of the wind from SE exceeded 21 miles an hour.

After the storm had expended itself, the barometer rose over the north of the bay up to the 16th, on which date the S. L. pressures were as follow:—

	Pressure.	Change since 11th.
Port Blair	29·855 inches.	+0·069 inches.
Akyab	29·794 „	+0 220 „
Chittagong	29·828 „	+0·230 „
Dacca	29·801 „	+0·172 „
Saugor Island	29·783 „	+0·130 „
False Point	29·753 „	+0·059 „
Vizagapatam	29·678 „	+0·035 „

Thus the pressure again became excessive at Chittagong, on the Arakan coast, and in Bengal; and its distribution on the Indian side of the bay was the reverse of that which is usual at the time of year. As a consequence, the winds, which had before been from the west, became easterly or south-

easterly, the barometer fell, and on the 19th the pressures and winds were as follow :—

	Pressure.	Change since 16th.	Winds.
Port Blair	29 860	+0·005	SW.
Akyab	29·761	—0·033	SE and S.
Chittagong	29·739	—0·089	Easterly.
Dacca	29·732	—0·069	N to S E.
Saugor Island	29·669	—0·114	North.
False Point	29·702	—0·051	SE and calm.
Vizagapatam	29·685	+0 007	Easterly.

The lowest pressure here shown is that of Saugor Island, but there must have been a still lower pressure over the bay, in the north of which a small cyclone was formed, probably, on this day.

The earliest account I have of it is given in an extract from the log of the F. L. V. *Comet* at the Mutlah station. At 4 a.m. the log records light airs from ENE. Squally appearance to eastward and lightning. The barometer (which apparently reads high) was then unaffected, but during the forenoon it fell nearly a tenth of an inch, the breeze increasing and backing towards north, so that by noon it blowing *strong* from NNE, and squally. In the afternoon the barometer fell 0·14 up to 4 p.m., the wind increasing from the same quarter, and the sea rising. At 8 p.m. the barometer had further fallen 0·11, making a total fall of 0·33 since 4 a. m. This is the lowest reading entered in the log. At 8 the wind went round to north, and afterwards to NW, from which quarter it blew at midnight. It was then blowing in furious gusts with heavy rain, but the barometer had risen 0·16 since 8 p.m. By 1 a. m. the wind was blowing a strong gale from west, and at 3 a.m. of the 20th September from SW. At 4 it began to moderate, and at daylight it has to a great extent subsided, but the weather remained squally and rainy all the forenoon.

The centre of the cyclone passed, therefore, to the east of the Mutlah light ship, and probably at no great distance.

The next account of it is from Jessore. Previously to the 19th the wind had been easterly, with intervals of calm; the days and nights hot and sultry, but without rain. On the afternoon of the 19th, 0·75 inch rain fell. In the evening the sky was partly overcast, but the air calm. At 10 p.m. the sky was completely overcast, and the wind NE. At 4 a. m. of the 20th it freshened from the same quarter, and gradually increased in violence, the barometer falling at the rate of about 0·05 inch an hour. At this hour the pressures at Dacca, Jessore, and Calcutta, reduced to sea-level, were as follow : —

Dacca	29·692	inches.
Jessore	29·591	„
Calcutta	29·659	„

Dacca being 80 miles to NE, and Calcutta 60 miles to SW, of Jessore. At the former the wind was SE ; at the latter SSE.

At 5 a.m. the wind at Jessore was ENE, and it continued to blow from this quarter for nearly 4 hours. At 9 it was from east; at 10 from SE ;

at half-past 10 from SSE, and at 11 from south. The most rapid change of direction was in the next half hour, when it veered through 4 points, *viz.*, to SW ; and it blew from that quarter during the rest of the day. The lowest pressure recorded was at 10h. 20m., *viz.*, 29·075, reduced to sea-level. At 10 a m. the pressures at Dacca and Calcutta were—

Dacca	...	...	...	29·696	inches.
Calcutta	...	..	...	29·743	„

At the former, therefore, there was no appreciable rise of the usual barometric tide; at the latter the tide was but little affected. But Calcutta was nearer than Dacca to the centre of the storm by about 25 or 30 miles; for it is clear from the veering of the wind, that the centre passed to the west of Jessore, though, probably, at no great distance. Assuming that the centre passed 5 miles from Jessore, and the pressure in the centre was the same as at Jessore, the barometric gradient on the radius to Calcutta was 1 inch in 85 miles, on that to Dacca 1 inch in 141 miles. No thunder or lightening was observed at Jessore during the gale; but 4·28 inches of rain fell. Unfortunately the ladder leading to the anemometer was blown down at the beginning of the storm, so that the velocity of the wind could not be ascertained. It was not however of any great violence. A few peepul and other trees were blown down, and also a number of mud huts and sheds; but the destruction caused was not very great. Moreover, from the data given above, it is clear that the area covered by the storm was not extensive.

At Furreedpore, 50 miles NE of Jessore, the storm was felt later. The wind veered in the same direction as at Jessore, and as I gather from a report sent in by Dr. Bose, the Civil Surgeon, the most rapid change of the wind was between 3 and 5 p. m., or about five hours later than at Jessore. Several boats were destroyed on the Ganges and the Jaboonah Rivers, and the storm was severely felt at Serajgunge.

Storms of October.—Stormy weather was prevalent in the bay throughout October, and it is probable that more than one cyclone may have been formed of which no distinct record has reached me; the worst weather was restricted to the south of the bay, including the coast of Madras, and it was only on the 24th to the 26th October that it was much felt on the coasts of Bengal. It was on this latter day that the cyclone mentioned at page 27 swept over Narcondam and the Cocos Islands, between the Andamans and Cape Negrais. This storm was probably generated in the neighbourhood of the Andamans, where the winds shifted frequently from S and SW to NE, and back again, throughout October. The barometer at Port Blair was low on the 21st, and from that to the 24th the weather was squally and the wind high, chiefly from SE and south. It was highest on the 22nd, when the barometer was lowest. In the extreme north of the bay, the weather was bad from the 24th to 26th, the wind being easterly or SE throughout. The barometer at Saugor Island fell nearly 0·3 inch between the 21st and 26th, and the velocity of the wind increased from 81 miles (in the 24 hours) on the 21st to 497 miles on the 26th. At this station the wind was chiefly from north or NE.

The stormy weather lasted till late in November. Indeed, in the Bay of Bengal, the year seems to have been a stormy one throughout.

ADDENDA.

The Port Blair register for December was received after the barometric and temperature tables had been printed off. The following are the means for that month :—

PORT BLAIR.—DECEMBER.

	Mean.	10h.	16h.	Mean of Max.	Range.	Mean of Min.	Highest Max.	Monthly Range.	Lowest Min.	
Bar. ...	29·827	29·872	29·783	...	·089	...	...	...	...	ins.
Temp. ...	79·6	83·2	83·8	85·8	10·4	75·4	17th 88·0	18·	15th 70·0	deg.

The following are the means of the barometric readings at Silchar for the months of October, November, and December, corrected to the Calcutta standard :—

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.	Range.
October ...	29·855	29·832	29·921	29·792	29·873	·129
November ...	·961	·946	30·031	·896	·973	·135
December ...	30·001	·984	·075	·932	30·014	·143

A. Acron, Calcutta Central Press Co., Ld.

REPORT

OF THE

METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL.

METEOROLOGICAL ABSTRACT

FOR THE YEAR

1873.

By HENRY F. BLANFORD,

Meteorological Reporter.

Calcutta:

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1874.

METEORO-LOGICAL ABSTRACT FOR 1873.

INTRODUCTORY REMARKS.

THE following report gives the meteorological results of 1873, the seventh year since the establishment of the department in 1867. In that year registers of pressure, temperature, &c., were kept at eleven stations only, of which ten were in Bengal and one in Arakan; and the report for 1867 gave, in addition to a summary of these returns, an abstract of the rainfall at twelve other stations. The present report comprises general meteorological returns for eighteen stations in Bengal, two in Madras, one in Arakan, two in the Bay of Bengal, and two in the North-Western Provinces; and, in addition to the above, a more or less complete summary of the registers communicated by the meteorological superintendents of other Governments, viz. from four stations in Ceylon, seven in the Upper Provinces, eight in Central India, and two in Berar. During 1873 two new stations, viz. Burdwan and Seebsaugor (in Upper Assam), have been established in Bengal, and one, Nancowry, in the Nicobar Islands; while one, Shillong, has been discontinued. Two other stations, Purneah and Ranchee, have been sanctioned, and will shortly be at work.

In the reports for the last two years have been given tables of average monthly pressure, temperature, rainfall, &c., for such stations as had furnished registers for three or four years. In the present report these have been corrected by the further data available up to the end of 1873, and amplified by the addition of a number of stations not previously included. It is now possible to frame a conception of the general distribution of pressure, temperature, &c., over about one-half of India and its seas, which probably represents pretty closely the normal or average features of the climate; and thus the first indispensable step towards an understanding of Indian meteorology has been taken for a portion at least of this great country. Were it possible to complete this survey; were the records which for many years past have been accumulating for the Presidencies of Bombay and Madras only rendered accessible; and were the Punjab registers trustworthy and comparable, we might now be in a position not only to describe, and in a great measure explain, the Indian monsoons, but to enter on an investigation of the causes (probably in great part local, and therefore accessible to us,) which determine their irregularities, and to attempt the solution of the problem stated by Sir George Campbell in the Bengal Administration Report for 1872, viz. "to ascertain the circumstances under which the summer rainfall is thrown sometimes on the east, sometimes on the west of the Bay of Bengal, and under which it is sometimes abundant in Bengal and scanty in the North-Western Provinces, and sometimes, as in 1872, almost deserts Bengal, and falls in great quantities in Northern India."

This, however, is impossible in our present ignorance of the meteorology of the Punjab and Western and Southern India. All that can be done is to point out those irregularities of temperature, pressure, and the wind system which are coincident with excessive or deficient rainfall in the area now accessible to us, and to await with patience the time when the necessity of

intimate co-operation between the several divisions of the meteorological system shall be recognised, and measures shall be taken to bring the whole of India and its dependencies under one common system of administration,—at all events to ensure that all the results shall be made comparable with each other, and speedily and easily accessible to those who are endeavouring to turn them to useful account.

The meteorology of the past twelve months has been in many respects remarkable. In May the temperature of Calcutta was such as has been reached but once before during the last 19 years. The rainfall of the year was the lowest on record, with the single exception of the great famine year 1837; and within a few days of the close of the year, the cold became such as is unexampled in our previous experience;—snow fell on the plains of the Punjab at Lahore and Jullundur, and hoarfrost whitened the low grounds of the Gangetic delta within a hundred miles of Calcutta. The distribution of atmospheric pressure has been equally anomalous. For the reasons already assigned, the effects of this important element of our meteorology can be but imperfectly ascertained; but there can be little doubt that the existence of a persistent barometric depression over the Gangetic plain, more especially in Oude, instead of that which usually appears in the summer and autumn on the high ground to the south of the Ganges, has been intimately connected with the partial failure of the monsoon rainfall in Bengal. These anomalies will be described in detail in the body of the report.

The tables give the monthly mean values of the following meteorological elements:—

1. Atmospheric pressure.
2. Observed temperature of air.
3. Extreme temperatures of air (self-registered).
4. Temperature of solar radiation.
5. Temperature of grass nocturnal radiation.
6. Vapour tension.
7. Relative humidity.
8. Serenity (proportion of unclouded sky).
9. Rainfall.
10. Number of days of rainfall.
11. Wind-direction.
12. Mean diurnal movement of wind.

All the instruments employed have been verified and corrected as far as possible. The registers have all been examined and the reductions checked in the meteorological office, and all observations that are manifestly erroneous have been rejected, as in former years.

HOURS OF OBSERVATION.

At stations of the first class, viz. Akyab, False Point, Cuttack, Saugor Island, Chittagong, Dacca, and Darjeeling, and at some of those of the second class, the barometer, dry and wet bulb thermometers, and the wind direction, have been observed at 4*h*, 10*h*, 16*h*, and 22*h*, as in former years; the minimum thermometers at 10*h*, and the maximum thermometers and rain-gauge at 18*h*. At other stations of the second class, either for the whole or part of the year, as well as at Madras, Port Blair, Nancowry, Dehree, and Arrah throughout, observations of these instruments have been recorded only at 10*h* and 16*h*, with the exceptions presently to be noticed; and from the beginning of the current year the night observations have been discontinued at all but the first class stations above mentioned. But at certain of the stations hourly observations have been recorded on four days in each month with a view to determining, with greater exactitude than hitherto, the diurnal variation of the principal meteorological elements. These are not published in the present report, but it is intended, when a sufficient series shall have been accumulated to allow of the deduction

of the diurnal variation, to give the mean result of the whole, together with the constants of Bessel's formula for the diurnal variation. It is probable that a complete series for three or four years will give these with sufficient exactness.

STATIONS.

The following table gives the geographical positions of all the stations of observation; also the elevation of the barometers above sea-level; or the elevation of the general ground level of the station, if the exact elevation of the instrument has not been ascertained. I append, moreover, a brief description of the physical geography of each station, as far as I am able to do so from a personal knowledge of the place or from trustworthy information.

Table I.—Latitude, Longitude, and Elevation of Stations.

Stations.	Lat. N.	Long. E.	Elevation in feet.	How determined.	Remarks.
Nancowry ...	8° 0′	93° 46′	98 / 134	?	
Port Blair (1) ...	11° 41′	92° 42′	61	?	
Madras ...	13° 5′	80° 70′	27	?	Barometer Cistern.
Vizagapatam ...	17° 42′	83° 22′	31	?	
Akyab ...	20° 8′	92° 57′	21	By Spirit Level ...	Ditto.
False Point ...	20° 20′	86° 47′	18·7	Ditto ...	Light-House, B. M.
Cuttack ...	20° 29′	85° 54′	80	Ditto ...	Barometer Cistern.
Saugor Island ...	21° 39′	88° 5′	6	Estimated ...	Barometer Cistern approx.
Chittagong ...	22° 21′	91° 50′	90	By Spirit Level ...	Barometer Cistern.
Calcutta ...	22° 33′	88° 21′	18·11	Ditto ...	Ditto.
Burdwan ...	23° 14′	87° 54′		Ditto ...	Ditto.
Jessore ...	23° 9′	89° 7′	20	By Barometer ...	Ditto.
Dacca ...	23° 43′	90° 27′	35	Measured above Ground Level. G. L. estimated.	Ditto.
Hazareebagh (2) ...	24°	85° 24′	2,014 / 1,996	By Spirit Level to G. T. B. M.	Ditto.
Berhampore ...	24° 6′	88° 17′	65	Ditto ...	Ditto approx.
Gya ...	24° 42′	85° 2′	347	By Barometer ...	Ditto.
Dehree ...	25° 54′	84° 13′	362	By Spirit Level ...	Aneroid.
Patna ...	25° 37′	85° 8′	179	Ditto ...	Barometer Cistern.
Monghyr ...	25° 22′	86° 30′	160·4	Ditto ...	Ditto.
Silchar ...	24° 49′	92° 50′	88·91	By Trig. ...	Ditto.
Goalparah ...	26° 11′	90° 40′	386	By Spirit Level to G. T. S. B. M.	Ditto.
Darjeeling (3) ...	27° 3′	88° 18′	6,941 / 6,912	By Trig ...	Ditto approx.
Benares ...	25° 20′	83° 2′	262·74	By Spirit Level ...	Ditto.
Roorkee ...	29° 52′	77° 56′	879·7	Ditto ...	Ditto.

(1). Hitherto given as 110 feet. I have lately learned that the Observatory was transferred from Viper Island (218 feet) to Ross Island on the 9th November 1870, and the barometer was at first placed at an elevation of about 110 feet; but on the 1st January 1871 it was transferred to an elevation of 61 feet, and this change was not reported at the time. The reductions to sea-level for 1871 and 1872 given in previous reports therefore require correction.

(2). The barometer was removed to the lower level at the Central Jail on the 1st April 1873.

(3). The barometer was removed to a new site at the lower level on the 1st May 1873.

Nancowry, an island of the Nicobar group. Horsburg describes it as "about four miles in extent, of triangular form, rugged and uneven, almost covered with wood." The Observatory is on the north of the island, opposite Camorta.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger island. A range of mountains runs through the island from north to south, protecting Port Blair in some measure from the south-west monsoon. The Observatory is situated on Ross Island, near the entrance of the harbour, having been removed thither from Viper Island.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's Mount and Palaveram (seven and ten miles from Fort St. George). The country rises gradually to the westward, forming the plains of the Carnatic or Payen-ghaut, and the nearest hills of considerable elevation are the Naggery Hills, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Vizagapatam.—This station is situated on the coast, about midway between the Chilka Lake and the delta of the Godavery. It is the only part of the Coromandel Coast at which the hills advance actually to the sea-board. At Vizagapatam they form a promontory, known as the Dolphin's Nose, which encloses a small bay, at the head of which the station is built. The interior is hilly, and covered with jungle, and has a bad reputation for fever.

Akyab, on the coast of Arakan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne River, much of which is flooded in the rainy season. The Arakan Hills, covered with an almost impenetrable jungle, are at a distance of about twenty miles to the north-east of the station; and the harbour, which is formed by the estuary of the Koladyne, is partly closed on the south by a group of islands, the hills of which are 500 or 600 feet in height.

False Point.—The Light-house is a conspicuous land-mark on the coast of Orissa, standing on a prominent point of the Mahanuddy delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant fifty miles. The coast-line trends about north-east and south-west; so that winds from east and south are sea-winds, those from west and north, land-winds.

Cuttack is built on flat alluvial ground at the head of the Mahanuddy delta. The river, one of the largest in the peninsula of India, issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches, the Kajouri and the Mahanuddy, in the fork of which Cuttack is situated. To the west and north the country is hilly and much covered with jungle, while to east and south of the station stretches the delta of the Mahanuddy, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island.—The telegraph-station, at which is also the Meteorological Observatory, is situated close to the south-west extremity of Saugor Island (one of the low-lying alluvial islands of the Sunderbuns), and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal; to the west and north-west the estuary of the Hooghly, here about twenty miles broad, with the low marshes of Hidgellee beyond; to the east and north-east stretch the swampy jungles of the Sunderbuns, much of which are flooded at spring tides. Indeed the station itself is below high-water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arakan mainland, in the extreme north-east corner of the Bay of Bengal, and opposite to the embouchure of the Megna, the largest estuary of the Gangetic delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, forms the port of Chittagong, and enters the sea three miles below. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of a more elevated plain, formed of highly inclined (tertiary ?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about twenty miles distant. Thus situated, the station is exposed to the

brunt of the south-west monsoon; and the rainfall, as along all the Arakan coast, is comparatively heavy.

Calcutta is situated sixty-eight miles from the sea, and about the same distance from the western edge of the Gangetic alluvium, which formation stretches away northward to the Himalaya, four hundred miles distant, and eastward for two hundred miles nearly to the Tipperah Hills. About three miles to the east of Calcutta is the margin of the Salt Lake, a shallow, brackish lagoon in an unfilled depression of the delta. To the south of this, much of the Sunderbun land is still unreclaimed from jungle; but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jheels) occur in many directions around Calcutta and over all parts of the delta. The climate of Calcutta is therefore moist, and the herbage green throughout the year. The thermometric range, both annual and daily, is less than at stations higher up the country; the latter, in the driest month of the year (March), does not ordinarily exceed 19° or 20°.

Burdwan, about sixty miles to the north-west of Calcutta, situated on the elevated edge of the deltaic alluvium. The country around is level and under rice cultivation, but not so humid as the lower ground to the eastward.

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca.—Between the former course of the Brahmapooter (still in its lower part a broad channel, the Megna), and that which the river now follows to its confluence with the Pudda or Ganges at Goalundo, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at its southern extremity, within a few miles of the Megna, on the bank of a small branch of the Brahmapooter. To the south is a network of broad rivers stretching to the sea, and in other directions (except the north) rice-land and grass jungle, which are flooded in the rains. At that time of the year, with the exception of the Madhopore jungle, but little land is visible.

Darjeeling, on a spur of the Singalelah range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The Electric Telegraph Office, at which the thermometer, barometer, and rain-gauge, are kept, is on the western slope, about 300 feet below the summit of the Jellapahar ridge. The wind vane is on the crest of the ridge.

Silchar.—This station is situated on the left bank of the Barak River, on an alluvial plain, but little elevated above the flood-level of the river. Ridges of low forest-clad hills run southwards from the river-bank at intervals of six or eight miles; and the intervals are occupied by plains, a great part of which are under water in the rains, and in the dry weather are converted into beels or swamps and (where cleared of forest) rice-fields. Twenty or thirty miles to the south of the station the ridges above mentioned run up into the hill country of South Cachar, the mean elevation of which is from 1,000 to 2,000 feet; and at ten miles to the north of the river are the Naga Hills (an eastern extension of the Garo and Khasi plateau). About twenty miles to the eastward the valley is nearly closed by the Burrail range.

Goalparah is on the south bank of the Brahmapooter, near the lower termination of the Assam Valley. The Observatory is situated on a hill close to the station, 249 feet above the river* and 386 feet above sea-level. It is described as the only open spot about the station. To the south are the Garo Hills.

* Above the highest water-mark.

Berhampore, one hundred and seventy miles from the sea, on the left bank of the Bhagirati, thirty miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground rises from a short distance to the west of the river up to the foot of the Rajmehal Hills and the undulating country of Beerbhoom.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the north extremity of the Kurruckpore range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quarzites, and, preserving the same mineral characters, they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain ; to the south and south-east, the rocky and elevated country of Hazareebagh and the Damin-i-koh, chiefly covered with forest, and of which the Kurruckpore Hills form the north-western corner.

Hazareebagh is situated in the elevated and hilly country south of the Ganges, and between its delta and the valley of the Sone. To the south of the station the ground falls rapidly to the Damoodah; to the north it declines gently to a lower part of the plateau, traversed by the Great Trunk Road, which at Burhee (due north of Hazareebagh) has an elevation of 1,160 feet. The country is undulating or hilly, and much covered with jungle.

Gya.—This station is situated sixty miles south of Patna, on the plain lying to westward of the range which bounds the Hazareebagh and Parasnath plateau on the west, and at an elevation of about 350 feet above the sea. Since this plateau, having a mean elevation of 1,100 to 1,300 feet, with hill masses of much greater height, intervenes between the Bay of Bengal and the plain of Gya, and must be traversed by the south-east winds which bring the rains to Behar and the North-Western Provinces, the climate of Gya is hot and dry.

Dehree, on the left bank of the Sone River, near the crossing of the Great Trunk Road, and within a few miles of Sasseram. The escarpment of the Rewah plateau is about seven miles distant to the south-west. On the south and east the hill country of Palamow and the Hazareebagh plateau rises from the alluvial plain to the right of the river, at a distance of about forty miles ; and on the north the alluvial plain of Shahabad extends uninterruptedly to the banks of the Ganges.

Patna, on the south bank of the Ganges, below the confluence of the Sone, and surrounded by the alluvial plains of these rivers.

Benares, on the north bank of the Ganges, one hundred and eighty miles west of Patna. From the south bank of the river the alluvium extends to the foot of the Kymore plateau, which intervenes between the valleys of the Ganges and the Sone. To the north is the flat alluvial plain of Oude.

Roorkee, near the head of the Ganges canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

ATMOSPHERIC PRESSURE.

The registers summarised in the following tables are in all cases those of mercurial barometers. Experience has shown that aneroids are not to be trusted unless they can be frequently compared with a mercurial standard; and if this cannot be accomplished on the spot, there is always a risk that the adjustment of their delicate mechanism may be deranged in course of transport. I regret that I have been obliged to reject the two hitherto valuable registers of Arrah and Dehree, the aneroids there in use, which have nevertheless been

regularly registered, having evidently lost their adjustment; and thus work on which much care and attention have evidently been bestowed, has become practically worthless. In order to some extent to save others the risk of disappointment arising from the use of inappropriate instruments, I will give in a few words the results of my experience in the use of different forms of barometer.

The best in every respect that I have yet tried are Casella's small standards with tubes of an uniform bore of about 0·3 of an inch. Notwithstanding the use of a glass cylinder in the upper part of the cistern (which has the advantage of enabling the observer to adjust his cistern level with great accuracy), they bear transport admirably; and although they have been in use at some stations for more than three years, no instance has yet occurred of leakage or any other injury to them. Adie's mountain barometer, mounted on a tripod, which serves as a case for the instrument in transport, is a very portable instrument, and useful for the purpose for which it is specially devised; but the solid piston, by which the cistern level is adjusted in this and other barometers by the same maker, is apt to admit of leakage, and many such instruments supplied to stations in Bengal have become unserviceable from this cause.

The Fitzroy storm barometer, which was in use for a short time at some stations, is a somewhat rough instrument, unprovided with means for adjusting the cistern level; and, having a short porcelain scale, the usual tables of correction for temperature are inapplicable to its readings. The same objections apply to all the ordinary forms of marine barometer with the exception of that constructed on the Kew principle with a metal scale. In cases in which it is necessary to transport the barometer to a great distance, and in which a very sensitive instrument is not required, this latter is very useful, and has the advantage that the necessity of adjusting the cistern at each reading is dispensed with.

Up to the date of the last report Casella's small standard barometers had been supplied to the stations of Jessore, Akyab, Chittagong, Hazareebagh, Berhampore, Monghyr, Patna, Dacca, Port Blair, Cuttack, Silchar, and the new station at Nancowry (not Camorta), one of the Nicobar Islands. They have since been furnished to Saugor Island, Gya, Burdwan, Goalparah, Seebsaugor and Darjeeling, and during the year 1873 were brought into use at the dates following:—

Silchar	...	...	...	9th April, 1873.
Nancowry	...	...	...	1st May „
Goalparah	...	...	...	7th July „
Gya	...	...	...	20th August „
Burdwan	...	...	...	7th Sept. „
Saugor Island		...	...	1st Novr. „

At Seebsaugor and Darjeeling they were not in use during the past year.

All the registers except that of Madras have been corrected to the Calcutta standard, which reads 0·011 inch higher than that of Kew.

Table III gives the mean pressure of each month at each hour of observation, and the mean of the month. The last is in most cases assumed to be given by the mean of the four sets of observations recorded at intervals of six hours. For certain months at Akyab, Saugor Island, Jessore, Dacca, Gya, Patna, and Goalparah, and for the whole year at Hazareebagh, the night observations, or a part of them, are wanting, having either been discontinued or rejected as untrustworthy. In all these cases the mean pressure of the month has been deduced by applying to the means of the $10h$ and $16h$ observations corrections obtained from the registers of preceding years. In the case of Burdwan, for which no such registers are extant, the Calcutta corrections have

been used. All these corrections are given below in Table II.* In the case of Port Blair, Nancowry, and Madras, as well as in that of the Ceylon and Central India stations, in Table IV the arithmetical mean of the 10*h* and 16*h* observations is adopted provisionally as the mean of the month. The barometric means of the N. W. P. stations, like most of those of Bengal, are derived from observations made at 6 hours' intervals. In this table two stations, viz. Goruckpore in Oude and Raipore in the Central Provinces, are now given for the first time in the Bengal Reports.

I regret that I am obliged to reject the barometric register of Silchar as untrustworthy, owing to carelessness and the neglect of instructions in suspending the barometer: I must extend this condemnation to the last three months of 1872 and the first two months of 1874.

Table V shows the monthly means of both the preceding tables reduced to sea-level, with the omission of Darjeeling. It comprises the results of 35 stations in India, Burmah, Ceylon, and the islands of the Bay.

In Table VI, I give the average monthly pressure of twenty-eight stations in India, Arakan, the Andaman Islands, and Ceylon, computed from the registers of the last seven years, or from so many of them as have furnished trustworthy registers. At some of these stations the elevation of the barometer has been changed during the period, but all the registers have been reduced to the elevations given in the first column. The second column shows the number of years from which each average has been computed. Where two figures are given, they indicate that the means of certain months have been obtained from shorter periods than those of others.

Table VII shows the amount by which the pressure of each month of 1873 deviated above or below the average of Table VI. The data of this table will be discussed at the end of the section.

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* The registers on which this table is based, having been obtained from instruments with smaller tubes than that of the Calcutta instrument, show a smaller range, owing probably to friction.

TABLE II.—BAROMETRIC CORRECTIONS.

To be applied to observations at 10 *hours and* 16 *hours to obtain the mean of the day.*

Station.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16
Akyab	−·062	+·055	−·067	+·053	−·061	+·054	−·063	+·056	−·047	+·055	−·038	+·043	−·038	+·043	−·047	+·053	−·050	+·061	−·050	+·054	−·046	+·052	−·057	+·053
False Point	·043	·047	·050	·051	·051	·049	·057	·052	·051	·053	·039	·041	·033	·037	·037	·041	·039	·038	·047	·040	·048	·045	·048	·044
Cuttack	·071	·067	·071	·069	·068	·075	·067	·070	·054	·073	·043	·060	·039	·051	·040	·055	·045	·055	·054	·049	·055	·054	·062	·060
Saugor Island	·068	·052	·072	·053	·061	·051	·063	·055	·051	·055	·035	·048	·032	·043	·041	·049	·048	·055	·054	·048	·059	·050	·064	·053
Chittagong	·053	·052	·053	·047	·064	·051	·060	·050	·057	·052	·036	·048	·033	·049	·044	·057	·049	·059	·053	·055	·049	·048	·053	·047
Jessore	·063	·060	·065	·060	·068	·065	·068	·070	·054	·065	·041	·055	·038	·052	·045	·058	·048	·058	·055	·054	·056	·055	·060	·056
Dacca	·064	·060	·066	·059	·068	·063	·066	·063	·061	·060	·046	·058	·038	·055	·044	·061	·053	·064	·054	·054	·053	·052	·060	·055
Berhampore	·070	·066	·073	·067	·072	·071	·073	·079	·063	·076	·050	·060	·045	·063	·052	·067	·059	·071	·059	·060	·063	·063	·067	·064
Monghyr	·074	·058	·073	·054	·074	·065	·074	·069	·062	·070	·049	·066	·044	·059	·049	·061	·051	·059	·060	·055	·063	·054	·065	·052
Darjeeling	·032	·025	·028	·024	·029	·022	·029	·025	·028	·020	·025	·018	·022	·015	·023	·017	·023	·019	·024	·020	·024	·020	·024	·023
Hazareebagh	·061	·048	·059	·057	·062	·056	·049	·052	·050	·056	·034	·047	·033	·043	·041	·045	·055	·055	·044	·045	·049	·043	·057	·045
Goalpara	·058	·071	·060	·069	·061	·075	·066	·077	·057	·065	·050	·057	·047	·054	·051	·055	·058	·064	·056	·064	·052	·065	·052	·063
Silchar	·068	·069	·073	·068	·079	·069	·071	·067	·068	·066	·054	·064	·049	·072	·057	·072	·061	·072	·063	·070	·066	·065	·065	·065
Patna	·069	·058	·064	·053	·069	·062	·068	·066	·062	·065	·054	·056	·043	·051	·049	·052	·056	·057	·055	·049	·061	·050	·064	·053
Calcutta	·078	·054	·082	·056	·077	·057	·069	·069	·058	·067	·041	·055	·039	·051	·045	·057	·055	·059	·061	·051	·067	·052	·073	·053

TABLE III.—MEAN MONTHLY PRESSURES FOR 1873.

	PORT BLAIR.				MADRAS.				NANCOWRY.			
	Mean.	10h.	16h.	Range.	Mean.	10h.	16h.	Range.	Mean.	10h.	16h.	Range.
	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	inch.
January	·849	·897	·801	·096	·975	1·033	·918	·115	...	.....	...	...
February	·854	·904	·805	·099	·956	1·017	·895	·122	...	...	...	...
March	·842	·892	·792	·100	·915	·980	·850	·130	...	...	...	...
April	·787	·840	·735	·105	·795	·858	·732	·126	...	...	...	...
May	·754	·797	·712	·085	·755	·813	·697	·116	·682	·714	·650	·064
June	·688	·721	·655	·066	·667	·725	·609	·116	·634	·673	·596	·077
July	·702	·730	·675	·055	·703	·765	·640	·125	·646	·684	·609	·075
August	·734	·769	·699	·070	·742	·802	·681	·121	·670	·696	·645	·051
September	·761	·805	·717	·088	·779	·843	·716	·127	·690	·728	·653	·075
October	·777	·827	·728	·099	·810	·866	·755	·111	·681	·712	·651	·061
November	·862	·898	·826	·072	·959	1·011	·907	·104	·735	·750	·720	·030
December	·881	·928	·834	·094	·980	1·033	·927	·106	·756	·794	·719	·075
Year ...	·791	·834	·748	·086	·836	·895	·777	·118	...	...	...	...

	VIZAGAPATAM.						AKYAB.					
	Mean.	4h.	10h.	16h.	22h.	Range.	Mean.	4h.	10h.	16h.	22h.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.
January	·958	·925	1·025	·900	·983	·125	·943	·909	1·006	·894	·964	·112
February	·945	·912	1·016	·887	·965	·129	·926	·908	·994	·875	·929	·119
March	·885	·856	·948	·824	·913	·124	·886	·858	·954	·827	·904	·127
April	·766	·736	·829	·711	·789	·118	·808	...	·868	·755	·831	·113
May	·725	·705	·780	·667	·750	·113	·737	·706	·797	·688	·756	·109
June	·560	·546	·599	·504	·590	·095	·622	...	·665	·574	·648	·091
July	·577	·557	·620	·523	·607	·097	·618	...	·656	·574	·656	·082
August	·657	·635	·708	·602	·683	·106	·721	...	·767	·669	·753	·098
September	·699	·673	·751	·644	·726	·107	·742	·719	·791	·684	·772	·107
October	·809	·772	·871	·763	·832	·108	·834	·809	·890	·780	·855	·110
November	·983	·947	1·042	·934	1·011	·108	·977	·949	1·080	·925	1·003	·105
December	·992	·959	1·056	·941	1·013	·115	·995	·973	1·051	·942	1·014	·109
Year ...	·796	·768	·854	·742	·822	·112	·817	...	·872	·765	·840	·107

TABLE III.—MEAN MONTHLY PRESSURES FOR 1873.—(*Continued.*)

	FALSE POINT.						CUTTACK.					
	Mean.	4h.	10h.	16h.	22h.	Range.	Mean.	4h.	10h.	16h.	22h.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.
January	·981	·967	1·034	·923	1·002	·111	·906	·878	·973	·842	·932	·131
February	·966	·962	1·022	·909	·971	·113	·884	·868	·953	·814	·903	·139
March	·889	·874	·950	·832	·901	·118	·805	·782	·871	·730	·835	·141
April	·759	·749	·816	·703	·768	·113	·676	·662	·743	·600	·700	·143
May	·711	·695	·766	·657	·727	·109	·631	·631	·682	·553	·656	·129
June	·534	·516	·574	·484	·560	·090	·466	·463	·501	·395	·504	·106
July	·515	·497	·551	·468	·543	·083	·453	·432	·487	·404	·488	·083
August	·639	·629	·680	·584	·665	·096	·574	·564	·615	·511	·608	·104
September	·683	·665	·724	·635	·710	·089	·616	·599	·660	·553	·651	·107
October	·842	·826	·891	·795	·857	·096	·774	·752	·826	·718	·799	·108
November	1·024	1·010	1·069	·970	1·049	·099	·950	·929	1·001	·893	·977	·108
December	1·037	1·022	1·088	·986	1·051	·102	·963	·946	1·024	·897	·987	·127
Year ...	·799	·784	·847	·745	·817	·102	·725	·709	·778	·659	·753	·119

	SAUGOR ISLAND.						CHITTAGONG.					
	Mean.	4h.	10h.	16h.	22h.	Range.	Mean.	4h.	10h.	16h.	22h.	Range.
	29 ins +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.
January	·973	...	1·043	·920	...	·123	·894	·877	·948	·836	·915	·112
February	·958	...	1·030	·906	...	·124	·872	·854	·927	·819	·889	·108
March	·882	...	·949	·825	...	·124	834	·815	·899	·774	·850	·125
April	·755	·726	·819	·706	·769	·113	·747	·728	·804	·692	·766	·112
May	·710	·689	·765	·656	·729	·109	·682	·666	·736	·627	·698	·109
June	·537	·527	·569	·483	·569	·086	·527	·503	·563	·478	·565	·085
July...	·499	·481	·532	·451	·532	·081	·514	·500	·547	·462	·547	·085
August	·646	...	·689	·595	·676	·094	·642	616	·690	·588	·674	·102
September	·681	·660	·727	·627	·710	·100	·674	·659	·722	·610	·704	·112
October	·842	·819	·902	·789	·857	·113	·790	·770	843	·739	·808	·104
November	1·029	1·002	1·083	·978	1·052	·105	942	·920	·990	·897	·961	·093
December	1·044	1·017	1·111	·988	1·058	·123	·947	·923	1·004	·897	·964	·107
Year ...	·796	...	·852	·744	...	·108	·755	·736	·806	·702	·778	·104

TABLE III.—MEAN MONTHLY PRESSURES FOR 1873.—*(Continued.)*

	CALCUTTA.						BURDWAN.			
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	10*h*.	16*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	inch.
January	·964	·932	1·037	·907	·982	·130	...	...	...	...
February	·936	·907	1·015	·881	·942	·134	...	...	...	...
March	·861	·833	·935	·801	·873	·134	...	...	...	...
April	·734	·709	·802	·673	·753	·129	...	...	...	...
May	·687	·671	·748	·631	·699	·117	...	...	...	...
June	·507	·489	·547	·451	·541	·096	...	...	...	...
July	·482	·464	·518	·430	·517	·088	...	...	...	...
August	·636	·615	·683	·580	·667	·103	...	...	...	...
September	·668	·645	·719	·611	·699	·108	·578	·632	·521	·111
October	·835	·815	·896	·779	·851	·117	·758	·823	·704	·119
November	1·009	·983	1·070	·953	1·029	·117	·936	1·017	·871	·146
December	1·029	1·002	1·100	·970	1·043	·130	·944	1·021	·888	·133
Year ...	·779	·755	·839	·722	·800	·117	...	...	...	...

	JESSORE.						DACCA.					
	Mean.	4*h*.	10*h*.	16*h*	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +
January	·957	·930	1·020	·896	·980	·124	·943	·914	1·007	·885	·964	·122
February	·923	·911	·992	·858	·933	·134	·912	·892	·982	·852	·920	·130
March	·852	·836	·921	·778	·872	·143	·845	·831	·915	·778	·857	·137
April	·726	·710	·793	·652	·748	·141	·734	·722	·802	·667	·745	·135
May	·678	...	·735	·611	...	·124	·686	·678	·748	·634	·685	·114
June	·498	...	·541	·441	...	·100	·516	...	·556	·464	·543	·092
July	·477	...	·516	·424	...	·092	·498	·488	·535	·440	·531	·095
August	·636	...	·680	·579	...	·101	·644	...	·688	·583	·669	·105
September	·666	...	·716	·606	...	·110	·672	·656	·725	·608	·697	·117
October	·823	...	·879	·769	...	·110	·816	·800	·873	·762	·829	·111
November	·999	...	1·055	·944	...	·111	·981	960	1·035	·927	1·003	·108
December	1·014	...	1·076	·956	...	·120	1·003	·983	1·068	·942	1·019	·126
Year ...	·771	...	·827	·710	...	·117	771	...	·828	·712	·788	·116

TABLE III.—MEAN MONTHLY PRESSURES FOR 1873.—(*Continued.*)

	HAZAREEBAGH.					BERHAMPORE.					
	Mean.	10*h*.	16*h*.	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	27 ins. +	27 ins. +	27 ins. +	27 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.
January	·954	1·008	·913	·969	·095	·911	·896	·978	·843	·925	·135
February	·959	1·009	·911	·960	·098	·878	·856	·956	·814	·887	·142
March	·882	·937	·835	·900	·102	·799	·784	·870	·727	·816	·143
April	·762	·817	·704	·774	·113	·663	·662	·734	·584	·672	·150
May	·731	784	·673	·739	·111	·615	·605	·686	·543	·626	·143
June	·550	·588	·500	·570	·088	·433	·420	·481	·370	·461	·111
July	·525	·559	·481	·553	·078	·427	·423	·469	·358	·459	·111
August	·660	·710	·615	·689	·095	·586	·576	·635	·521	·613	·114
September	·702	·751	·653	...	·098	·618	·605	·675	·550	·642	·125
October	·882	·932	·832	...	·100	·789	·780	·850	·730	·795	·120
November	1·026	1·081	·978	...	·103	·961	·940	1·024	·901	·978	·123
December	1·018	1·079	·970	...	·109	·983	·963	1·052	·915	1·001	·137
Year ...	804	854	755	...	·099	722	709	·784	655	·740	·129

The means of the first three months of the Hazareebagh table have been corrected to the elevation of 1,996 feet, at which the barometer has been since the 1st April.

	GYA.						PATNA.					
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.
January	·617	·590	·691	·563	·601	·128	·795	·773	·857	·732	·820	·125
February	·577	·545	·651	·535	·578	·116	...	...	...	...	...	...
March	·486	...	·562	·411	·507	·151	Not recorded.					
April	...	...	...	...	...	...	...	...	...	...	...	...
May	...	...	...	...	...	...	·486	...	·554	·415	·501	·139
June	Not recorded.			...	...	...	·287	...	·347	·226	...	·121
July	...	...	...	...	...	...	·305	...	·356	·247	...	·109
August	...	...	...	...	...	...	·455	...	·511	·396	...	·115
September	·283	...	·335	·230	...	·105	·484	...	·543	·424	...	·119
October	·485	...	·542	·433	...	·109	·691	...	·750	·639	...	·111
November	·655	...	·721	·600	...	·121	·878	...	·939	·827	...	·112
December	·680	...	·749	·623	...	·126	·916	...	·981	·863	...	·118

TABLE III.—MEAN MONTHLY PRESSURES FOR 1873.—(*Continued.*)

	MONGHYR.						DARJEELING.					
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	23 ins. +	23 ins. +	23 ins. +	23 ins. +	23 ins. +	inch.
January	·825	·799	·895	·771	·835	·124	·335	·318	·362	·314	·345	·048
February	·786	·760	·863	·729	·793	·134	·406	·396	·430	·380	·420	·050
March	·698	·677	·770	·629	·716	·141	·388	·369	·415	·366	·403	·049
April	·554	·542	·626	·482	·565	·144	·361	·349	·383	·339	·373	·044
May	·510	·501	·584	·444	·511	·140	·356	·341	·377	·338	·369	·039
June	·323	·319	·371	·260	·344	·111	·252	·234	·269	·236	·268	·033
July	·325	·316	·373	·267	·345	·106	·264	·250	·279	·250	·277	·029
August	·471	·458	·526	·409	·492	·117	·351	·337	·367	·336	·365	·031
September	·505	·492	·564	·446	·518	·118	·370	·354	·386	·354	·386	·032
October	·692	·677	·758	·638	·695	·120	·432	·417	·452	·412	·446	·040
November	·872	·848	·941	·817	·882	·124	·511	·496	·531	·492	·524	·039
December	·878	·852	·945	·824	·890	·121	·462	·454	·486	·436	·472	·050
Year ...	·620	·603	·685	·560	·632	·125	·374	·360	·395	·354	·389	·040

The means of the first four months of the Darjeeling table have been corrected to the elevation of 6,912 feet, at which the barometer has been since the 1st May.

	GOALPARA.						BENARES.					
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	inch.
January	·606	·617	·656	·532	·619	·124	·737	·722	·798	·682	·745	·116
February	·568	·573	·617	·497	·584	·120	·710	·704	·768	·655	·714	·113
March	·523	·525	·583	·447	·539	·136	·606	·599	·657	·549	·620	·108
April	·418	·415	·484	·334	·438	·150	·460	·452	·515	·410	·462	·105
May	·340	·319	·406	·282	·354	·124	·421	·415	·468	·383	·419	·085
June	·176	.....	·229	·117	·196	·112	·218	·223	·268	·175	·207	·093
July	·159	.....	·212	·100	.....	·112	·228	·219	·280	·191	·221	·089
August	·274	.....	·332	·213	.....	·119						
September	·320	.....	·385	·249	.....	·136						
October	·468	.....	·535	·393	.....	·142			Not recorded.			
November	·646	.....	·708	·572	.....	·136						
December	·657	.....	·726	·578	.....	·148	·798	·805	·852	·754	·784	·098
Year ...	·430	.....	·489	·359	.....	·130						

TABLE III.—MEAN MONTHLY PRESSURES FOR 1873.—(*Concluded.*)

ROORKEE.

	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	28 ins. +	28 ins. +	28 ins. +	28 ins. +	28 ins. +	Inch.
January	1·057	1·025	1·129	1·017	1·059	·112
February	1·031	1·004	1·101	·986	1·030	·115
March	·943	·920	1·013	·891	·948	·122
April	·801	·792	·873	·742	·799	·131
May	·788	·781	·850	·745	·777	·105
June	·534	·522	·609	·479	·527	·130
July	·579	·562	·630	·532	·594	·098
August	·719	·699	·780	·675	·722	·105
September	·789	·769	·848	·750	·791	·098
October	·980	·953	1·044	·940	·984	·104
November	1·145	1·106	1·211	1·107	1·158	·104
December	1·152	1·127	1·212	1·109	1·159	·103
Year ...	·877	·855	·942	·831	·879	·112

TABLE IV.—BAROMETRIC MONTHLY MEANS OF ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND CEYLON FOR 1873.

(Corrected to the Calcutta Standard.)

	Elevation.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Jhansi	836	29·117	29·130	29·028	28·893	28·849	28·648	28·660	28·788	28·826	29·032	29·193	29·203	28·947
Allahabad	290	?	?	?	?	?	?	?	?	29·369	·582	·759	·778	?
Goruckpore	255	?	?	?	29·442	29·402	29·203	29 216	29·352	·397	·589	·780	·773	?
Lucknow	364	29·621	29·595	29·502	·335	·315	·077	·100	·237	·286	·495	·674	·688	29·410
Agra	532	·432	·410	·308	·165	·138	28·911	28 930	·059	·121	·326	·501	·509	·234
Bareilly	570	·387	·365	·282	·130	·110	·865	·910	·040	·097	·298	·472	·480	·203
Jubbulpore	1,353	28·617	28·612	28·526	28·408	28·354	·175	·179	28·303	28·339	28·534	28·682	29·686	28·451
Nagpore	1,025	·922	·898	·818	·710	·672	·525	·520	·618	·663	·825	·966	·981	·760
Raipore	980	·955	·957	·879	·744	·706	·548	·541	·675	·705	·890	29·038	29·004	·803
Jaffna	9	29·938	29·915	29·898	29·820	29·785	29·752	29·784	29·790	29·833	29·830	·924	·947	29·851
Trincomalee	175	·761	·748	·731	·646	·621	·573	·597	·613	·646	·648	·741	·761	·674
Colombo	42	·860	·862	·853	·823	·786	·813	·835	·832	·870	·854	·845	·879	·843
Galle	40	?	?	?	·808	·768	·786	·818	·808	·847	·824	·849	·850	?

TABLE V.—BAROMETRIC MONTHLY MEANS FOR 1873 REDUCED TO SEA-LEVEL.

(Corrected to the Calcutta Standard.)

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +
Galle	?	?	?	·849	·809	·827	·859	·849	·888	·857	·881	·902	.....
Colombo	·903	·905	·896	·866	·829	·856	·878	·876	·913	·887	·898	·922	·886
Trincomalee	·939	·926	·908	·821	·796	·747	·770	·788	·819	·817	·910	·942	·849
Jaffna	·936	·924	·907	·829	·794	·761	·793	·799	·842	·828	·922	·956	·858
Nancowry	?	?	?	?	·782	·735	·746	·770	·829	·820	·874	·895	.....
Port Blair	·912	·917	·905	·850	·817	·751	·765	·797	·824	·840	·923	·944	·854
Madras...	1·003	·984	·943	·823	·782	·694	·730	·769	·806	·838	·987	1·008	·864
Vizagapatam	·992	·977	·917	·798	·756	·591	·608	·688	·731	·841	1·015	1·024	·828
Akyab	·965	·948	·908	·829	·759	·644	·640	·743	·764	·856	·999	1·016	·839
False Point	·999	·985	·908	·778	·720	·553	·534	·658	·702	·861	1·041	1·056	·816
Cuttack	·990	·967	·888	·758	·711	·546	·534	·655	·697	·857	1·034	1·047	·807
Saugor Island	·979	·964	·888	·761	·716	·543	·505	·652	·687	·848	1·035	1·050.	·802
Chittagong	·990	·967	·927	·840	·775	·619	·606	·735	·767	·883	1·036	1·042	·849
Calcutta	·983	·955	·880	·753	·705	·525	·501	·655	·687	·854	1·028	1·048	·798
Burdwan	?	?	?	?	?	?	?	?	·679	·861	1·049	1·049	.....
Jessore...	·978	·944	·873	·747	·698	·518	·497	·657	·687	·844	1·020	1·036	·792
Dacca	·980	·949	·881	·770	·723	·552	·534	·680	·708	·852	1·017	1·040	·807
Goalpara	1·012	·968	·920	·812	·728	·554	·538	·655	·701	·860	1·045	1·057	·821
Berhampore	·980	·946	·866	·729	·671	·498	·492	·652	·684	·856	1·027	1·050	·788
Monghyr	·995	·954	·862	·715	·669	·481	·484	·631	·665	·855	1·039	1·048	·783
Hazareebagh	1·030	1·009	·870	·726	·676	·476	·480	·626	·674	·884	1·059	1·080	·799
Gya	·981	·936	·837	?	?	?	?	?	·628	·839	1·013	1·044	.....
Patna	·985	?	?	?	·664	·463	·483	·635	·664	·875	1·067	1·106	.....
Goruckpore	?	?	?	·696	·654	·452	·469	·607	·652	·847	1·045	1·043	.....
Benares	1·016	·985	·874	·722	·680	·470	·489	?	?	?	?	?	.....
Jhansi	1·000	·997	·875	·718	·671	·457	·488	·622	·665	·883	1·060	1·083	·793
Allahabad	?	?	?	?	?	?	?	?	·660	·879	1·062	1·087	.....
Lucknow	1·005	·975	·874	·695	·673	·427	·459	·598	·650	·865	1·053	1·074	·779
Agra	1·009	·978	·865	·705	·676	·439	·470	·604	·671	·885	1·053	1·070	·785
Bareilly	·989	·958	·862	·693	·671	·413	·471	·604	·664	·875	1·063	1·081	·779
Roorkee	·992	·952	·844	·676	·662	·385	·446	·594	·682	·882	1·057	1·067	·770
Jubbulpore	1·031	1·008	·890	·740	·678	·488	·524	·653	·691	·913	1·083	1·105	·817
Nagpore	·983	·944	·849	·722	·677	·533	·546	·645	·695	·868	1·021	1·053	·795
Raipore	·970	·961	·869	·709	·670	·508	·519	·656	·694	·888	1·051	1·024	·793

TABLE VI.—AVERAGES OF MONTHLY MEAN PRESSURES DEDUCED FROM THE REGISTERS OF THE YEARS 1867 TO 1873.

(Corrected to the Calcutta Standard.)

	Elevation, feet.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Years.
Galle	40	3-5	29·838	29·848	29·843	29·797	29·800	29·789	29·810	29·813	29·842	29·839	29·834	29·857	29·826
Colombo	42	4-5	29·851	29·861	29·852	29·807	29·802	29·795	29·821	29·823	29·850	29·850	29·845	29·863	29·835
Trincomallee...	175	3-5	29·744	29·751	29·730	29·655	29·608	29·580	29·598	29·607	29·630	29·658	29·732	29·767	29·672
Port Blair	61	4-6	29·847	29·871	29·843	29·786	29·734	29·718	29·726	29·735	29·761	29·788	29·843	29·857	29·792
Madras	27	6	29·972	29·948	29·902	29·808	29·723	29·673	29·706	29·732	29·759	29·821	29·924	29·973	29·828
Vizagapatam	31	4	29·949	29·918	29·866	29·785	29·676	29·590	29·580	29·637	29·690	29·798	29·939	29·993	29·785
Akyab	21	6-7	29·987	29·932	29·890	29·830	29·756	29·678	29·680	29·708	29·759	29·841	29·948	29·994	29·834
False Point	18	7	30·028	29·969	29·905	29·804	29·710	29·593	29·587	29·647	29·706	29·844	29·994	30·043	29·819
Cuttack	80	6-7	29·965	29·891	29·814	29·704	29·618	29·532	29·530	29·585	29·667	29·805	29·950	29·994	29·755
Saugor Island	6	7	30·014	29·945	29·881	29·779	29·683	29·555	29·545	29·599	29·679	29·829	29·980	30·040	29·794
Calcutta	18	7	30·012	29·944	29·864	29·763	29·669	29·547	29·545	29·609	29·684	29·837	29·978	30·030	29·790
Chittagong	90	7	29·911	29·860	29·798	29·729	29·648	29·542	29·540	29·585	29·649	29·761	29·883	29·927	29·736
Jessore	20	6-7	29·993	29·928	29·851	29·750	29·668	29·538	29·539	29·603	29·681	29·830	29·968	30·016	29·780
Dacca	35	5-7	29·977	29·923	29·834	29·757	29·677	29·558	29·554	29·605	29·684	29·816	29·951	30·000	29·778
Silchar	89	4-5	29·930	29·885	29·812	29·732	29·647	29·547	29·542	29·598	29·677	29·792	29·931	29·972	29·755
Hazareebagh	1,996	6-7	27·986	27·938	27·882	27·788	27·702	27·580	27·573	27·641	27·709	27·873	27·990	28·015	27·806
Berhampore	65	6	29·948	29·878	29·790	29·676	29·582	29·453	29·470	29·548	29·632	29·775	29·916	29·969	29·720
Patna	179	6	29·848	29·794	29·693	29·584	29·482	29·349	29·358	29·436	29·515	29·682	29·832	29·883	29·621
Monghyr	160	5-6	29·857	29·783	29·690	29·584	29·498	29·367	29·374	29·443	29·523	29·685	29·833	29·883	29·627
Darjeeling	6,912	5-7	23·384	23·364	23·364	23·360	23·335	23·265	23·261	23·305	23·362	23·424	23·466	23·437	23·361
Goalpara	386	5	29·606	29·538	29·463	29·386	29·302	29·208	29·190	29·257	29·339	29·452	29·589	29·627	29·413
Benares	263	6	29·786	29·713	29·623	29·502	29·398	29·268	29·273	29·348	29·433	29·600	29·752	29·802	29·541
Jhansi	836	6-7	29·165	29·126	29·019	28·911	28·804	28·662	28·673	28·755	28·836	29·008	29·148	29·198	28·942
Lucknow	364	6	29·682	29·606	29·522	29·393	29·290	29·150	29·161	29·232	29·325	29·488	29·646	29·698	29·433
Roorkee	880	7	29·116	29·049	28·978	28·867	28·752	28·619	28·634	28·698	28·799	28·964	29·107	29·151	28·894
Agra	532	7	29·499	29·428	29·342	29·223	29·102	28·967	28·975	29·039	29·138	29·315	29·469	29·512	29·251
Nagpore	1,025	5	28·942	28·899	28·813	28·710	28·629	28·531	28·537	28·607	28·653	28·801	28·939	28·972	28·753
Jubbulpore	1,353	5	28·616	28·610	28·525	28·427	28·326	28·202	28·200	28·278	28·329	28·499	28·654	28·653	28·442

TABLE VII.—COMPARISON OF THE BAROMETRIC MEANS OF 1873 WITH THE AVERAGES OF TABLE VI.

	January.	Februray.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	.....	.....	.....	+011	—032	—003	+008	—005	+005	—015	+015	—007	?
Colombo	+.009	+001	+001	+016	—016	+018	+014	+009	+020	+004	0	+016	+.008
Trincomalee	+·017	—003	+001	—009	+013	—007	—001	+008	+016	—010	+009	—006	+·002
Port Blair	+·002	—017	—001	+001	+020	—030	—024	—001	0	—011	+019	+024	—·001
Madras	+·003	+012	+013	—013	+032	—006	—003	+010	+020	—011	+035	+007	+·008
Vizagapatam	+·009	+027	+019	—019	+049	—030	—003	+020	+009	+011	+044	—001	+·011
Akyab	—·044	—006	—004	—022	—019	—056	—062	+013	—017	—007	+029	+001	—·016
False Point	—·047	—003	—016	—045	+001	—059	—072	—008	—023	—002	+030	—006	—·021
Cuttack	—·059	—007	—009	—028	+013	—066	—077	—011	—051	—031	0	—031	—·030
Saugor Island ...	—·041	+013	+001	—024	+027	—018	—046	+047	+002	+013	+049	+004	+·002
Calcutta	—·048	—008	—003	—029	+018	—040	—063	+027	—016	—002	+031	—001	—·011
Chittagong	—·007	+012	+036	+018	+034	—015	—026	+043	+025	+029	+059	+020	+·019
Jessore	—·036	—005	+001	—024	+010	—040	—062	+033	—015	—007	+031	—002	—·010
Dacca	—·034	—011	+011	—023	+009	—042	—056	+039	—012	0	+030	+003	—·007
Hazareebagh ...	—·032	+021	0	—026	+029	—030	—048	+019	—007	+009	+036	+003	—·002
Berhampore	—.037	0	+009	—013	+033	—020	—043	+038	—014	+014	+045	+014	+·002
Patna	—·049	.....	.....	.....	+010	—048	—038	+033	—018	+016	+047	+033	?
Monghyr	—·032	+003	—008	—030	+012	—044	—049	+028	—018	+007	+039	—005	—·007
Darjeeling	—.049	+042	+024	+001	+021	—013	+003	+046	+008	+008	+045	+025	+·013
Goalpara	0	+030	+060	+032	+038	—032	—031	+017	—019	+016	+057	+030	+·017
Benares	—·049	—003	—017	—042	+023	—050	—045	.....	.....	.....	.....	—004	?
Jhansi	—·037	+004	+009	—018	+045	—014	—013	+033	—010	+024	+045	+005	+·006
Lucknow	—·061	—027	—020	—058	+024	—072	—061	+005	—039	+007	+028	—010	—·024
Roorkee	—·059	—018	—035	—066	+036	—085	—055	+021	—010	+016	+038	+001	—·018
Agra	—·056	—018	—034	—058	+036	—056	—045	+020	—018	+011	+032	—005	—·016
Nagpore	—·020	—001	—005	0	+043	—006	—017	+011	+010	+024	+027	+009	+·006
Jubbulpore	+·001	+002	+001	—019	+028	—027	—021	+025	+010	+035	+048	+033	+·010

The fluctuations of atmospheric pressure shown by barometric records in India may be classed under five heads, viz. two regular and periodical variations and three irregular. These are—1st, the semi-diurnal tides; 2nd, the great annual variation, which in all parts of the plains has one maximum (in December) and one minimum (in June or July), the amount of the rise and fall varying according to the locality; 3rd, local and temporary variations of short duration, such as accompany north-westers and other local storms; 4th, general and temporary fluctuations which affect the whole or the greater part of the country simultaneously, being as a rule the more intense the higher the latitude, while in extreme low latitudes they tend to vanish. It seems probable that were the whole of India and the countries immediately adjacent available for comparison, it would be found that these fluctuations are compensated by others of an opposite character in some adjacent region; 5th, local and persistent variations, which appear as a local exaggeration or partial suppression of the great annual variation; the pressure remaining for many months, sometimes through two or even more consecutive seasons, either higher or lower than the average, relatively to other parts of the country, over a more or less extensive tract. These last are the most important in relation to those irregularities of the monsoon rainfall of which the past year has afforded a disastrous instance.

The preceding tables of monthly mean pressures are of course inappreciably affected by the variations of classes I and III. The regular annual variation is shown approximately in Table V; and Table VI, which shows by how much the pressure at each place, on the average of each month, exceeded or fell short of these averages, gives therefore the sum of the irregularities included in the last two classes. Not to attempt any precise and rigorous analysis of this table, which indeed is scarcely practicable at present, I shall content myself with pointing out the more salient features of the monthly fluctuation and of those irregularities in the geographical distribution of pressure which it exhibits.*

In January the pressure was generally low in Northern India and over the northern half of the Bay of Bengal, the only striking exception being in Eastern Bengal, where the barometer appears to have remained abnormally high throughout the year. In February and March the average of the whole area was not very different from that which is usual; but the geographical irregularities of its distribution, presently to be noticed, were strongly marked. In April there was a general fall, greater than is usual at the time of year; but this was checked in the following month, so that in May the pressure was almost everywhere considerably in excess of the average. Another excessive and general fall succeeded, and in June and July the mean pressures were abnormally low everywhere except in Cachar and on the south-west coast of Ceylon. In August however, a general rapid rise brought the pressure above the average; but in September it was generally below it in the Gangetic valley and Bengal and in the northern part of the Bay. In October and November a general and rapid rise took place, so that in the latter month it was excessive in all parts of the area; but in December the rise was much less than the average, except at Port Blair and Colombo; so that, with the exception of the local irregularities, the mean pressure was about the average for the month.

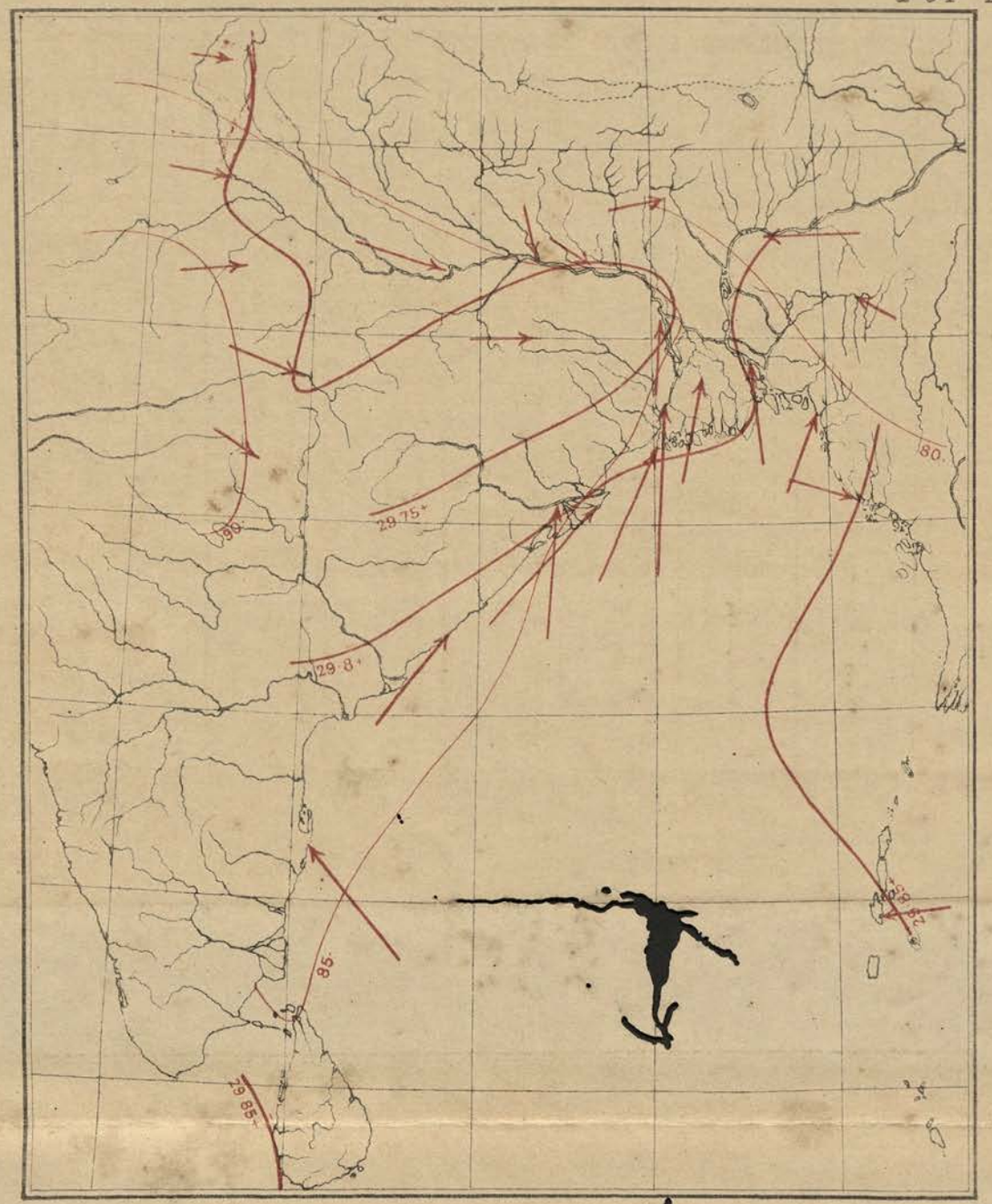
Coinciding with these temporary fluctuations, and exercising a most important influence on the winds and rainfall, were those persistent irregularities in the relative distribution of pressure, which I have defined as the fifth class of barometric variations; and to the existence of which, as an important peculiarity of Indian meteorology, I originally drew attention in 1870.† During the past year

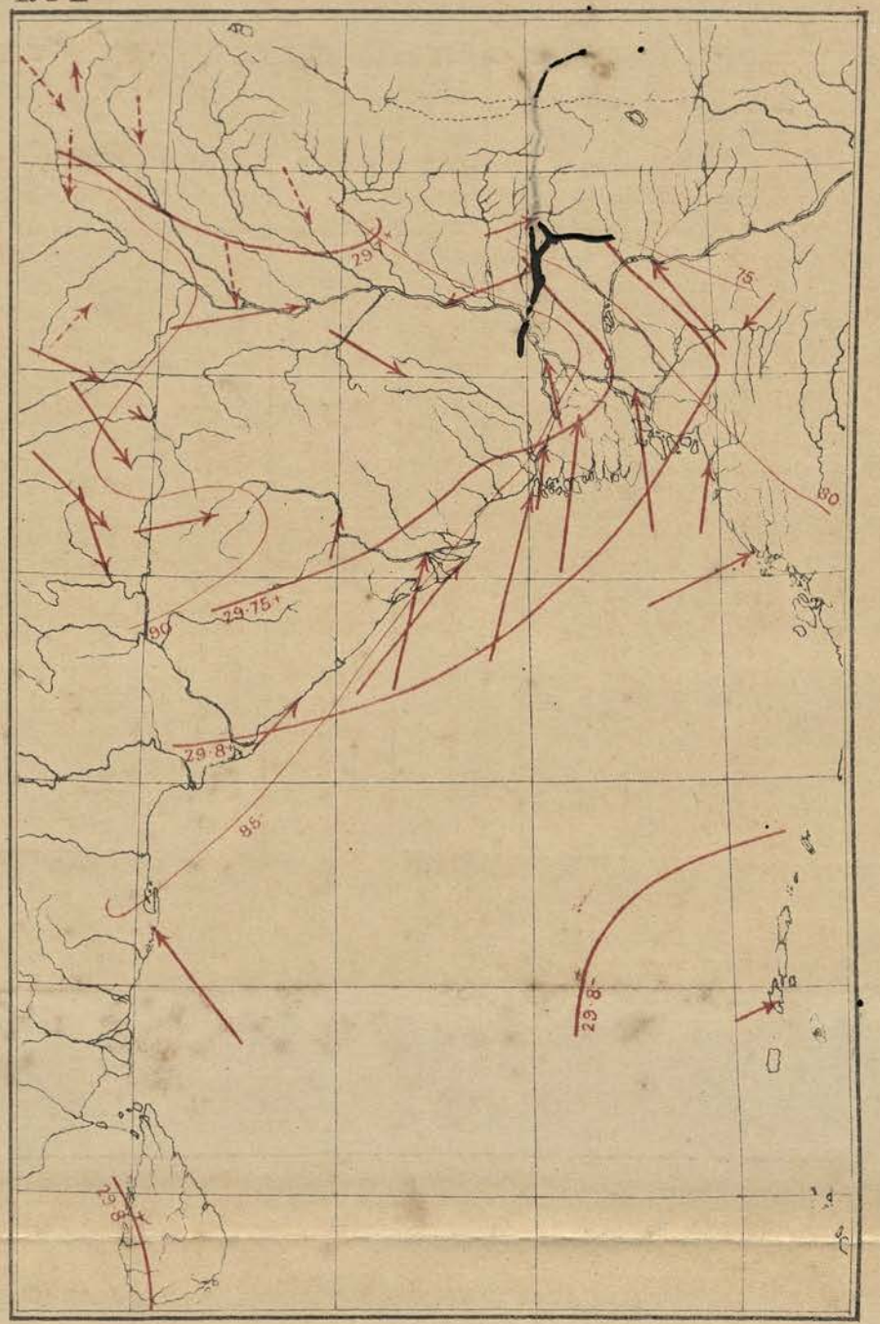
* Any one who cares to make a rough analysis of the table may verify the co-existence of the two classes of irregularities above referred to very easily. The general rise and fall of pressure contemplated as class IV will be shown by tabulating for each station the difference of the figures in Table VI for each pair of months consecutively, when it will be found that, as a general rule, the rise and fall is simultaneous over the greater part of the country. The persistent irregularities (class V) will be shown most conveniently by taking some station with a central situation, such as Calcutta, as a standard, and tabulating the difference of the figures standing against other stations as compared with those of the standard station. It will then be found that, as a rule, for many consecutive months, the difference against each station bears the same sign + or —, and that the amount varies slowly. The description in the text is based on tables such as the above.

† As. Soc. Journal, Vol. XXXIX, P. 123.

WEATHER CHARTS

AVERAGE For APRIL 1873





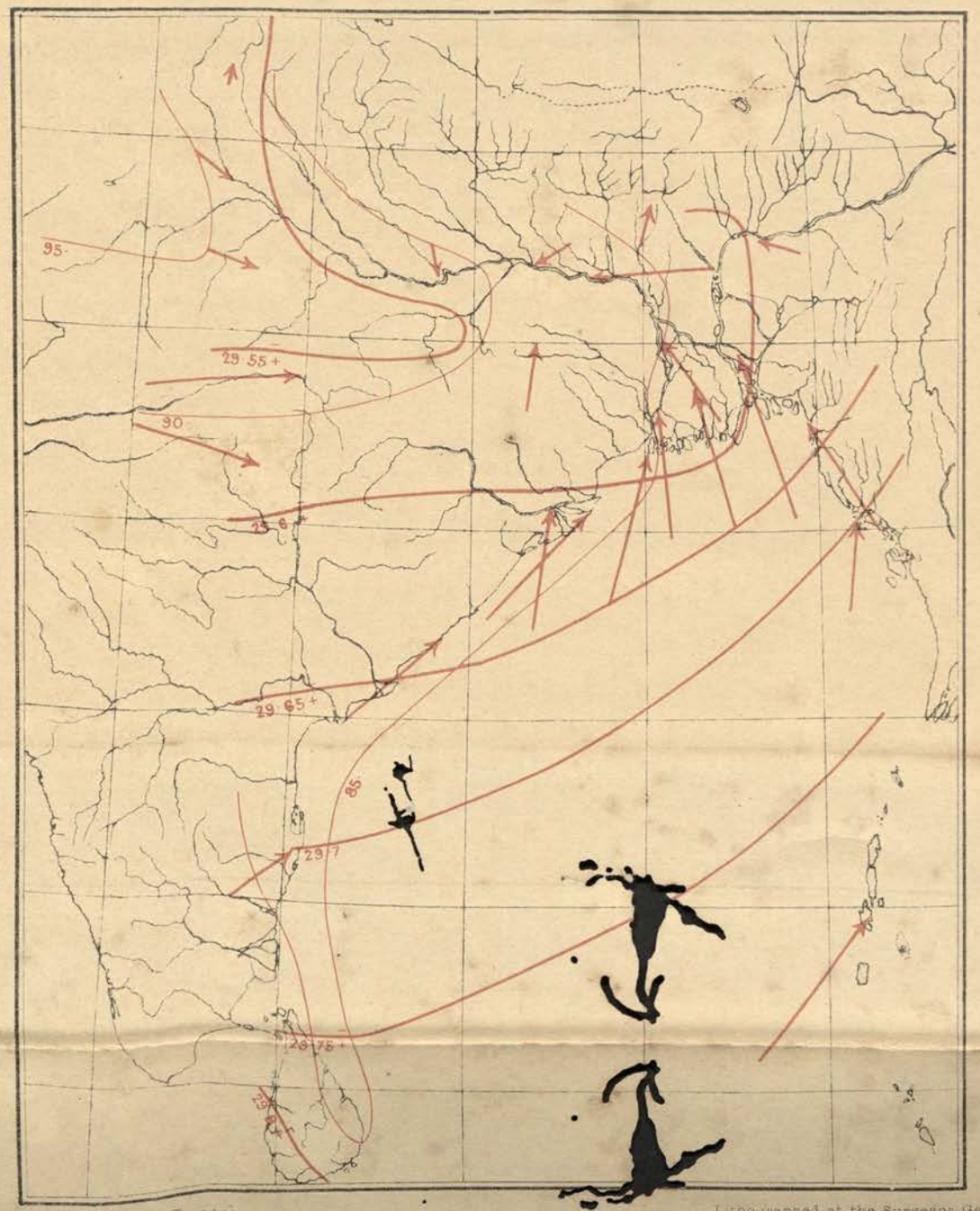
Met. Rep. Bengal.

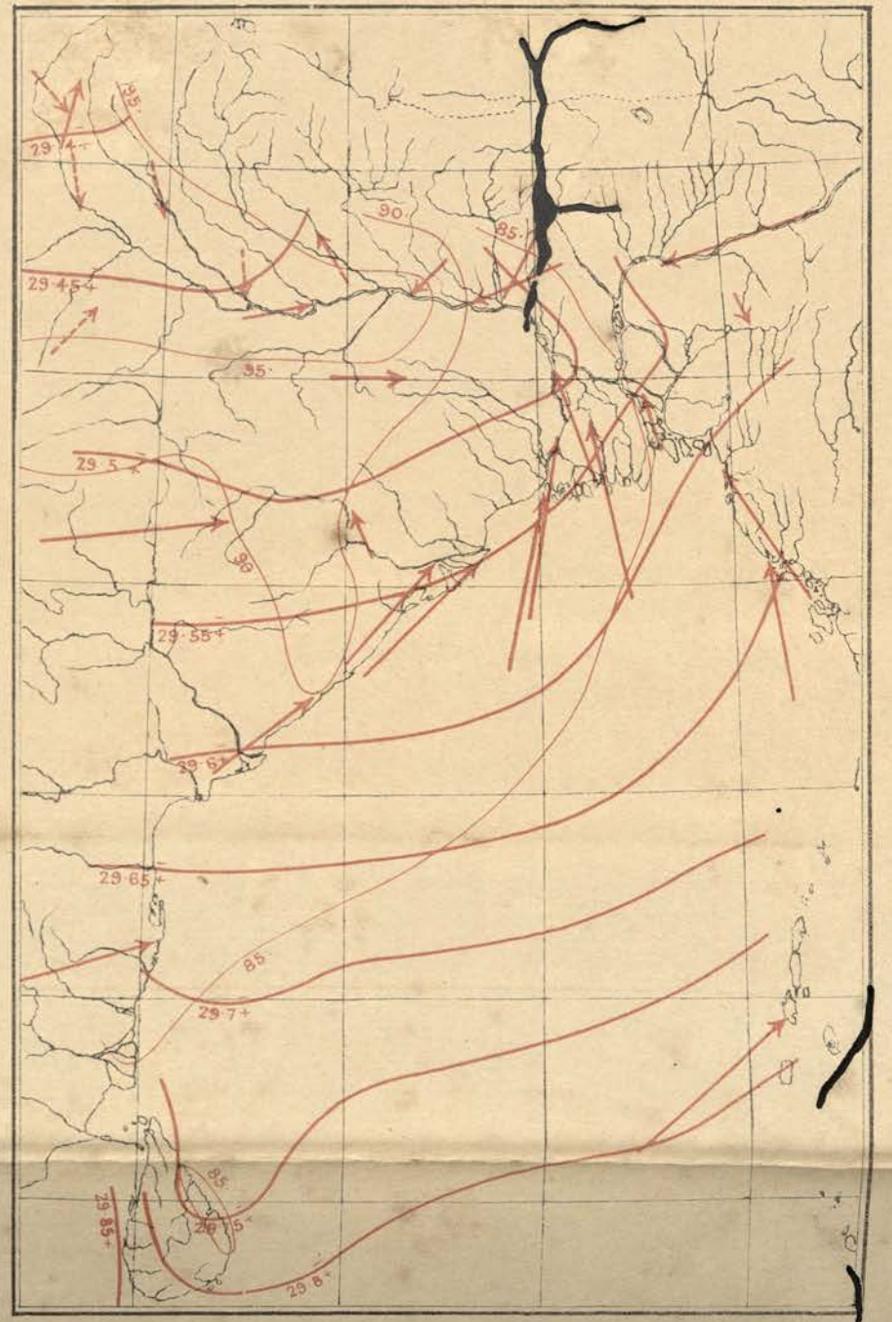
Lithographed at the Surveyor General's Office, Calcutta, April 1874.

1873.

WEATHER CHARTS

AVERAGE For JUNE 1873





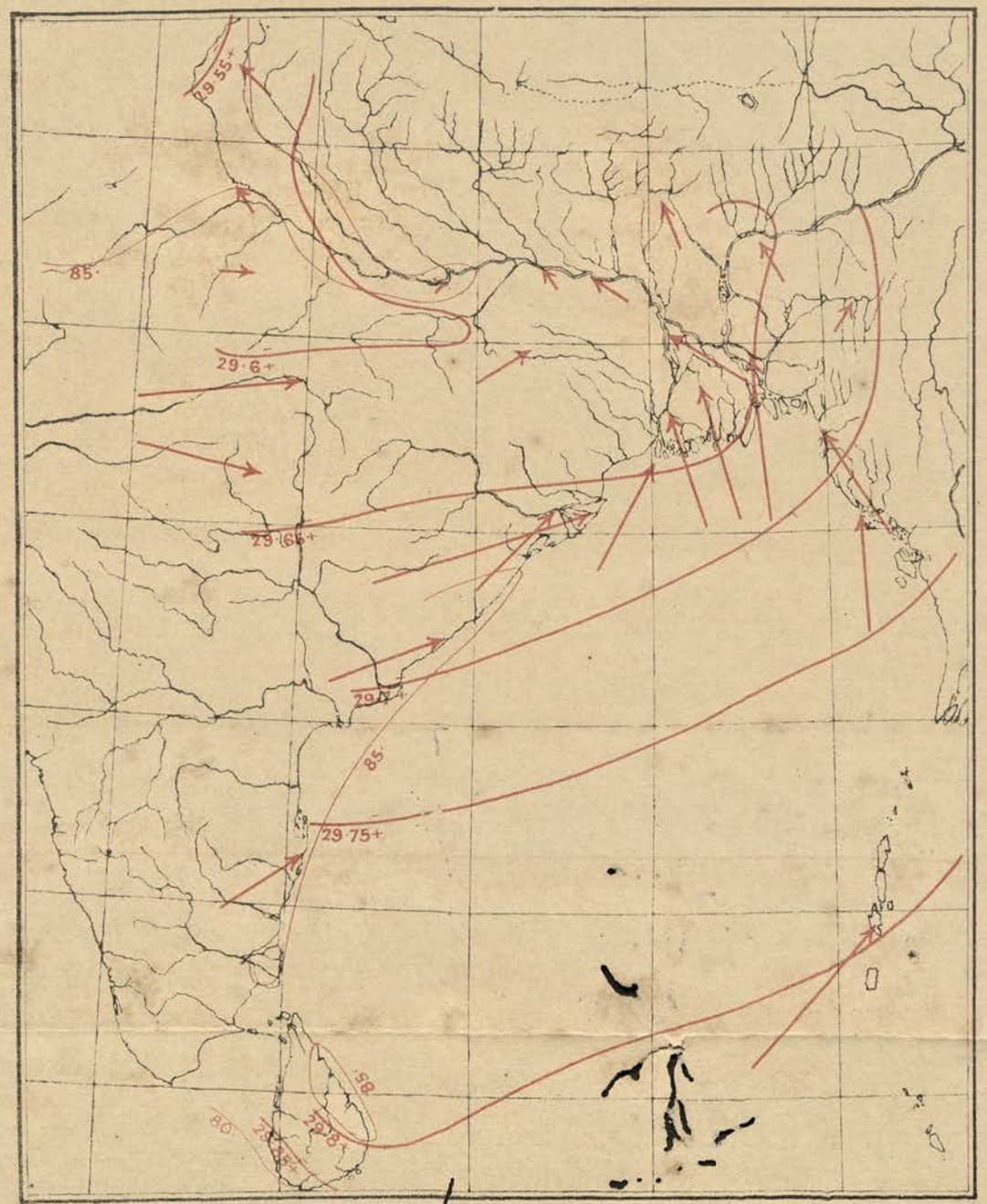
Met. Rep. Bengal.

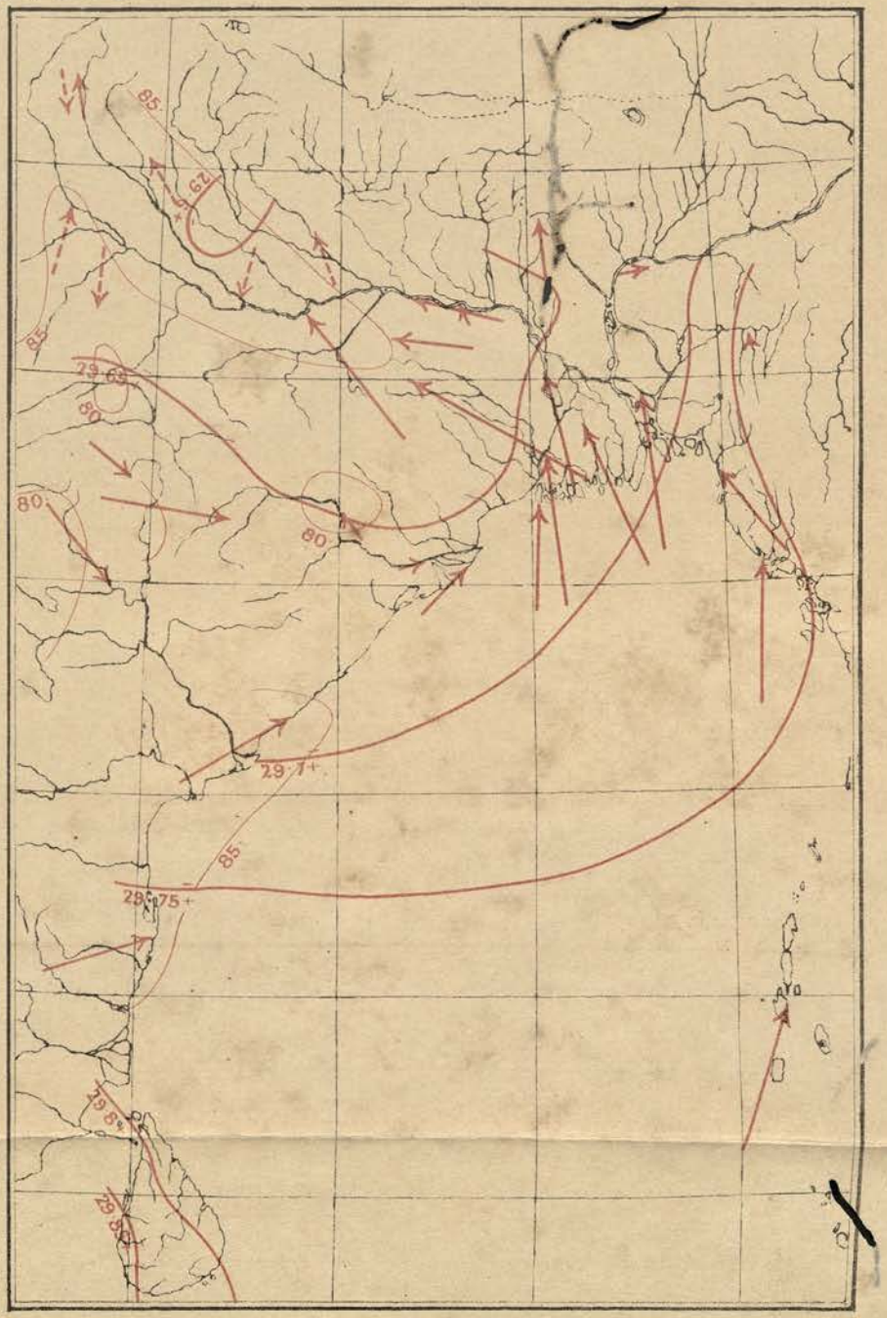
Lithographed at the Surveyor General's Office, Calcutta, April 1874.

1873.

WEATHER CHARTS

AVERAGE For AUGUST 1873





Met. Rep. Bengal.

Lithographed at the Surveyor General's Office, Calcutta, April 1874.

1873

these irregularities have been very strongly marked; and, whatever their cause, there can be little doubt that they afford the key to the immediate explanation of many of the more striking anomalies of the winds and rainfall of the past season.

In the very beginning of the year the pressure in Cachar was unusually high,* having been so indeed since the previous October; and although it decreased somewhat during the year, it remained up to the close a marked and influential feature of the season. At Chittagong, and during the greater part of the year at Goalpara, a similar, but probably less excessive, relative pressure was equally persistent; and at Saugor Island, relatively to Calcutta, the pressure was higher than usual, especially in February and the last six months of the year. On the other hand at Akyab and False Point, and especially Cuttack, the pressure was relatively low. In Western Bengal and the North-Western Provinces there was a very important departure from the usual distribution of pressure, which is illustrated in the accompanying charts for the months of April, June, and August.† In ordinary years a trough of relative barometric depression extends from Nagpore to Chota Nagpore and Hazareebagh in the earlier months of the hot weather; and when, during the rains, the seat of minimum pressure is transferred to the Punjab, there is still, to the south of the Ganges, an oblong tract where the pressure is relatively lower than either in the Gangetic valley on the north, or in Orissa and Nagpore on the south. Into this latter the monsoon blows from both coasts; the current from the Bay of Bengal sweeping round in a curve, and following the course of the Gangetic plain, while that from the west coast blows from the west or west-south-west across Nagpore. In 1873 this trough of pressure was obliterated,‡ and in the months of the rains the seat of lowest pressure was transferred to the province of Oude. The sea-level pressures of Lucknow and Goruckpore were, throughout the latter season, lower than that of Agra or Jhansi, and that of Patna was slightly lower than that of Hazareebagh, whereas the reverse is generally the case. In the last two months of the year while a relatively high pressure was maintained in Eastern Bengal, at Goalpara and Darjeeling, and a relatively low pressure at Cuttack, the pressure at Port Blair, Patna, and Jubbulpore became relatively high as compared with surrounding places.

TEMPERATURE OF AIR.

At Akyab and all the stations in Bengal, with the exception of False Point, and possibly Dehree (which is not under the Meteorological Department), the thermometers have been suspended under sheds open all round to admit of a free circulation of the air. The precautions taken to ensure the correctness of the instruments are such as have been detailed in the reports for 1871 and previous years.

The mean of the four periods of observation is adopted as the mean temperature of the day in all cases where these have been recorded in a trustworthy manner. Wherever one or more of these are wanting, (with the exceptions noted below,) I have applied to the mean maximum and minimum temperatures, corrections obtained empirically from the registers of past years; so that all such mean diurnal values are comparable with those obtained from four observations. The corrections employed are given in Table VIII.

For Port Blair and Nancowry, as well as the stations of the Central Provinces, Berar, and Ceylon, I have taken as the mean diurnal temperature the arithmetical mean of the self-registered minimum and 16*h*. temperature, a method suggested by the Messrs. Von Schlagintweit. The values thus obtained

* This may be stated with confidence, since the somewhat doubtful evidence of the Cachar register receives confirmation from those of Chittagong and Goalpara as well as from the prevailing direction of the wind.

† For a description of these charts see the end of the report.

‡ It is possible indeed that South Behar was an exception. Unfortunately the barometric registers for Dehree and Gya are either deficient or untrustworthy.

are very near the true means of the day for islands and most stations in a maritime climate; but it would appear from the data given in Table VIII that at stations in the interior, and during the drier months of the year, they are appreciably too low, since the arithmetical mean even of the maximum and minimum is in some of these cases a full degree below the real mean temperature of the day. It follows from this that the temperature of Central India in the hot weather months is even more excessive than has hitherto been shewn by the tables. Until, however, data shall be forthcoming that will give a surer means of deducing the mean temperature of these inland stations, I have preferred to adhere to the practice hitherto followed, since it affords results which are at least comparable *inter se*. In the case of Madras, I have applied to the 10*h*. and 16*h*. observations, the corrections deduced by Professor Dove.

Table X gives the mean monthly temperatures of twenty-three stations in Central India, the North-West Provinces and Ceylon; and Table XI these and the corresponding means from Table IX reduced to sea-level values. In making this reduction, I have assumed, as in the report for last year, that the temperature decrement for increments of elevation on the plains of the interior of India is 1° Fahr. for every 450 feet.

Table XII gives the approximate average temperature of each month at thirty-six stations in India, Burmah, and Ceylon, deduced from the registers of the last seven years, and table XIII the difference of these and the corresponding temperatures of the year 1873.

TABLE VIII.—THERMOMETRIC CORRECTIONS.

To be applied to the maximum and minimum readings to obtain the mean temperature.

	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	—	+	—	+	—	+	—	+	—	+	—	+	—	+	—	+	—	+	—	+	—	+	—	+
Saugor Island	9·2	9·5	6·8	6·8	5·7	5·9	4·8	5·1	4·5	4·6	3·6	4·1	3·7	3·9	3·5	3·9	3·8	4·0	5·0	5·5	7·4	7·8	9·2	9·0
Calcutta	9·4	7·4	9·4	7·5	9·4	7·3	8·8	6·4	7·6	5·5	4·4	3·5	3·5	2·7	3·3	2·7	3·7	2·9	4·7	4·0	7·4	6·0	9·0	7·2
Jessore	14·1	13·5	14·5	13·6	13·5	12·3	12·5	10·2	9·8	7·8	6·8	5·0	6·0	4·2	6·2	4·4	6·3	4·6	7·6	6·1	11·5	9·8	13·5	12·2
Silchar	13·7	12·2	13·5	12·3	12·2	11·8	9·9	9·0	8·5	8·0	7·6	5·2	7·4	5·3	7·0	5·4	7·3	5·4	7·8	6·9	10·9	9·7	13·1	10·8
Hazareebagh	11·8	11·4	12·3	11·6	12·9	12·0	12·8	12·9	13·1	11·9	10·2	7·2	6·2	4·5	6·7	5·0	6·9	6·6	8·4	7·8	9·7	9·6	10·6	10·6
Berhampore	12·3	11·2	13·9	12·8	13·7	13·9	14·0	11·4	12·8	9·7	9·6	6·2	7·2	4·6	6·8	4·4	6·9	4·8	8·0	6·7	10·2	9·4	11·4	10·9
Gya	11·3	12·0	12·2	13·7	12·9	14·6	12·2	13·4	10·9	11·4	10·2	8·5	7·0	5·5	6·4	5·2	6·8	6·1	8·4	9·7	11·2	13·6	11·8	12·8
Patna	12·5	14·0	13·7	15·4	15·2	14·8	14·9	16·3	14·3	14·2	11·8	9·6	9·7	8·4	6·7	5·7	6·5	6·1	8·2	9·1	11·7	13·2	13·2	15·0
Monghyr	10·9	9·9	11·7	11·7	12·0	13·8	12·1	13·2	11·3	10·5	11·2	7·8	5·6	5·3	5·1	4·8	5·3	4·9	7·2	7·1	10·3	9·8	10·2	9·7
Goalpara	9·9	12·1	11·2	12·1	11·9	13·3	10·4	10·1	8·1	8·6	6·5	6·0	6·0	5·8	6·4	5·8	5·8	5·8	6·7	7·1	8·6	9·1	9·3	10·9
Benares	15·9	17·1	17·2	18·6	16·5	19·5	16·1	18·9	14·1	16·2	11·4	11·3	8·0	7·5	7·1	7·3	8·5	7·8	13·8	14·0	16·7	17·6	16·5	17·3
Roorkee	14·9	16·1	13·7	13·9	13·9	15·3	14·9	16·9	14·3	14·8	11·1	10·8	7·8	6·4	8·2	7·1	9·6	8·2	14·5	14·4	16·9	16·1	15·8	15·0

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.

PORT BLAIR.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	78·8	...	81·9	83·7	...	85·3	11·4	73·9	29th	88·0	20·0	6th	68·0
February ...	79·7	...	82·7	85·3	...	86·4	12·3	74·1	28th	88·0	19·0	28th	69·0
March ...	81·6	...	85·2	87·2	...	89·1	13·1	76·0	30th & 31st	92·0	21·0	1st	71·0
April ...	83·7	...	87·4	88·9	...	90·4	11·8	78·6	20th	93·0	16·0	18th	77·0
May ...	82·8	...	86·8	87·5	...	90·4	12·2	78·2	4th	94·0	19·0	30th	75·0
June ...	80·7	...	83·4	83·7	...	85·3	8·3	77·0	20th—22nd	88·0	14·0	24th & 25th	74·0
July ...	80·8	...	84·1	84·3	...	85·8	8·4	77·4	28th	88·0	15·0	7th	73·0
August ...	81·0	...	84·6	84·9	...	87·1	10·0	77·1	18th	90·0	16·0	26th	74·0
September ...	80·3	...	83·7	84·0	...	86·1	9·5	76·6	30th	89·0	15·0	23rd	74·0
October ...	80·0	...	83·3	83·9	...	86·2	10·1	76·1	8th	89·0	16·0	30th	73·0
November ...	81·1	...	84·7	84·8	...	87·6	10·1	77·5	20th	90·0	16·0	4th	74·0
December ...	80·3	...	83·5	84·6	...	86·6	10·5	76·1	22nd—25th	89·0	17·0	19th	72·0
Year ...	80·9	...	84·3	85·2	...	87·2	10·6	76·6	.....	94·0	26·0	.....	68·0

NANCOWRY.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...													
February ...													
March ...	...	Not recorded.											
April ...													
May ...	81·0	...	86·0	84·0	...	87·8	9·7	78·1	14th	91·0	17·0	30th	74·0
June ...	80·2	...	84·6	83·4	...	86·3	9·2	77·1	27th	91·0	18·0	9th	73·0
July ...	80·8	...	84·6	83·1	...	85·1	6·6	78·5	3rd	89·0	18·0	11th	71·0
August ...	79·0	...	83·5	82·3	...	...	...	75·7	.....	...	...	18th	71·0
September ...	77·1	...	82·6	81·1	...	...	...	73·2	.....	...	...	16th	70·8
October ...	76·8	...	83·7	80·0	...	...	...	73·7	.....	...	...	23rd	71·8
November ...	77·5	...	83·8	81·7	...	84·6	11·2	73·4	28th & 29th	87·0	14·0	30th	73·0
December ...	76·5	...	84·1	80·3	...	86·4	13·6	72·8	24th—26th	88·9	...	.....	...
Year ...	...	...	...	...	...	...	...	...	.....	...	...	.....	...

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

MADRAS.

	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	77·0	.....	79·8	80·8	
February	78·2	.....	81·3	82·4	
March	82·1	.....	84·8	84·3	
April	84·7	.....	89·1	87·1	
May	86·7	.....	91·2	88·4	
June	89·6	.....	92·6	92·4	
July	88·6	.....	90·0	92·5	
August	86·1	.....	87·8	88·1	
September	85·1	.....	87·1	88·0	
October	79·4	.....	81·8	82·3	
November	77·8	.....	80·8	80·8	
December	77·1	.....	80·0	80·1	
Year	82·7	.....	85·5	85·6	

VIZAGAPATAM.

	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	75·8	73·1	76·0	78·8	75·1	79·5	7·6	71·9	18th	81·5	16·5	13th & 14th	65·0
February ...	79·1	76·3	79·9	81·7	78·6	82·4	7·1	75·3	25th	87·8	15·8	17th	72·0
March ...	82·9	80·7	84·1	84·6	82·4	85·4	5·4	80·0	25th	90·8	13·8	17th	77·0
April ...	86·2	84·1	87·3	87·6	85·6	88·6	4·8	83·8	15th	94·5	14·5	1st	80·0
May ...	88·2	86·2	89·9	89·3	87·3	90·3	4·4	85·9	19th	93·6	10·6	31st	83·0
June ...	90·0	87·9	90·3	91·9	89·7	92·8	5·4	87·4	21st	98·3	13·3	6th	85·0
July ...	84·0	82·6	83·9	85·7	83·9	86·3	3·9	82·4	20th	92·0	15·0	9th	77·0
August ...	85·1	83·7	85·5	86·2	84·8	86·9	3·5	83·4	21st	90·0	10·0	28th & 29th	80·0
September ...	84·9	83·3	85·4	86·5	84·5	87·2	4·3	82·9	9th	90·0	10·3	6th	79·7
October ...	81·0	79·6	81·5	82·2	80·6	82·7	3·3	79·4	3rd—5th	86·0	14·0	31st	72·0
November ...	77·5	75·2	78·2	79·3	77·4	79·7	5·2	74·5	9th	83·5	12·5	21st	71·0
December ...	75·1	72·8	75·6	77·1	74·8	77·7	5·6	72·1	11th & 12th	80·3	14·3	26th	66·0
Year ...	82·5	80·5	83·1	84·2	82·1	84·9	5·0	79·9	.....	98·3	33·3	.....	65·0

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	67·8	57·6	73·7	76·3	63·8	80·3	24·3	56·0	31st	86·8	38.1	12th & 13th	48·7
February ...	72·0	61·6	77·4	81·2	67·9	85·0	26·5	58·5	11th	90·8	38·1	17th	52·7
March ...	77·9	69·2	84·0	83·9	74·4	87·5	21·8	65·7	31st	91·8	34·1	6th	57·7
April ...	80·9	...	87·0	86·9	79·4	89·7	17·5	72·2	14th & 15th	92·8	28·2	30th	64·6
May ...	84·4	79·4	88·1	88·0	82·0	90·7	15·1	75·6	26th & 27th	94·0	26·4	1st	67·6
June ...	80·6	...	81·6	82·5	80·7	85·3	9·4	75·9	28th	89·8	18·2	26th	71·6
July ...	80·2	...	80·9	81·2	79·7	83·6	7·7	75·9	21st	86·8	12·8	29th	74·0
August ...	81·4	...	82·5	82·7	79·9	85·6	8·8	76·8	25th	93·0	19·0	14th	74·0
September ...	81·4	78·8	83·0	83·7	80·1	86·6	10·0	76·6	10th	92·3	19·3	27th	73·0
October ...	80·8	77·3	82·7	84·6	78·8	87·7	12·1	75·6	8th	90·8	18·8	14th	72·0
November ...	77·2	71·4	80·5	83·0	73·9	86·5	17·1	69·4	6th	90·8	27·8	15th	63·0
December ...	72·2	65·4	76·1	79·4	67·9	83·7	20·3	63·4	9th	87·8	33·1	31st	54·7
Year ...	78·3	...	81·5	82·8	75·7	86·0	15·9	70·1	.....	94·0	45·3	.....	48·7

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	71·4	64·9	73·4	76·8	70·5
February	75·3	69·3	76·9	80·3	74·5
March	80·4	76·3	82·1	83·1	79·9
April	83·1	80·7	84·2	84·5	82·8
May	84·9	82·3	86·0	86·6	84·8
June	87·0	84·8	88·4	88·2	86·7
July	83·2	81·3	83·9	84·7	82·8
August	83·8	81·6	84·5	85·5	83·6
September	84·1	81·9	85·0	86·3	83·4
October	80·7	77·6	81·5	83·3	80·5
November	74·2	68·0	76·7	79·0	73·2
December	70·3	64·9	71·5	74·4	70·4
Year	79·9	76·1	81·2	82·7	79·4

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	72·0	62·3	75·0	83·2	67·6	86·0	25·9	60·1	18th	90·2	40·9	12th	49·3
February ...	77·0	65·7	80·9	89·2	72·0	92·1	28·5	63·6	24th	99·3	43·6	5th	55·7
March ...	82·2	73·4	84·8	92·7	77·9	95·9	24·5	71·4	22nd	105·2	38·8	15th	66·4
April ...	86·4	79·6	88·8	95·1	82·3	100·1	22·1	78·0	27th & 28th	108·2	38·2	21st	70·0
May ...	88·5	80·6	92·4	96·8	84·3	103·4	24·1	79·3	21st	110·5	38·4	5th	72·1
June ...	89·4	82·9	92·6	96·4	85·9	101·5	19·7	81·8	28th	108·5	34·1	13th	74·4
July ...	82·5	79·3	84·8	85·2	80·7	89·3	11·3	78·0	20th	94·8	19·8	5th	75·0
August ...	83·1	79·4	85·8	86·1	81·0	91·3	13·2	78·1	20th	98·2	23·5	8th	74·7
September ...	83·3	79·0	86·2	87·1	80·8	91·8	14·5	77·3	23rd	97·2	22·3	4th	74·9
October ...	80·6	75·1	84·5	85·2	77·5	90·1	16·3	73·8	3rd	95·3	32·3	31st	63·0
November ...	74·6	66·7	78·5	82·4	70·6	86·3	21·3	65·0	6th	94·1	35·5	20th	58·6
December ...	71·1	62·7	74·5	80·4	66·8	83·8	22·8	61·0	10th	89·5	36·1	25th	53·4
Year ...	80·9	73·9	84·1	88·3	77·3	92·6	20·3	72·3	.....	110·5	61·2	.....	49·3

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	68·5	...	72·4	77·5	...	77·1	17·4	59·7	31st	80·8	32·7	11th	48·1
February ...	73·3	...	77·4	81·1	...	81·8	16·9	64·9	24th	88·6	36·4	5th	52·2
March ...	78·6	...	82·3	83·3	...	84·3	11·6	72·7	18th	88·4	26·6	9th	61·8
April ...	83·5	80·6	86·3	85·6	81·6	87·3	8·2	79·1	19th	90·2	24·3	21st	65·9
May ...	85·8	82·2	89·0	88·6	83·4	90·1	8·8	81·3	17th	94·6	25·3	6th	69·3
June ...	88·3	85·5	91·2	90·7	85·8	92·4	8·9	83·5	2nd	98·8	24·0	23rd	74·8
July ...	84·3	82·4	85·6	85·9	83·1	87·7	6·9	80·8	22nd	91·7	15·0	19th	76·7
August ...	83·6	...	85·3	86·3	82·2	87·1	7·7	79·4	25th	91·1	14·6	10th	76·5
September ...	84·6	82·1	86·4	86·9	83·1	88·7	8·1	80·6	22nd	93·2	17·2	12th	76·0
October ...	80·1	75·3	83·7	84·5	77·1	85·0	11·3	73·7	5th	89·2	22·9	31st	66·3
November ...	74·8	69·8	77·9	80·7	70·7	82·2	15·3	66·9	5th	88·6	28·7	24th	59·9
December ...	70·0	64·3	72·4	76·8	66·7	78·0	16·7	61·3	11th	81·9	29·0	31st	52·9
Year ...	79·6	...	82·5	84·0	66·7	85·1	11·5	73·6	.....	98·8	50·7	.....	48·1

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	66·4	55·8	69·9	75·4	64·6	78·8	24·7	54·1	31st	83·3	36·6	12th	46·7
February ...	72·8	62·3	75·9	82·1	70·8	85·0	26·1	58·9	23rd	88·1	38·5	13th	49·6
March ...	77·8	69·3	81·3	85·0	75·8	88·5	22·3	66·2	31st	94·3	37·1	10th	57·2
April ...	81·4	75·7	85·3	85·5	79·0	90·0	16·7	73·3	15th	94·7	29·7	30th	65·0
May ...	83·1	77·2	87·1	87·8	80·3	91·3	15·6	75·7	19th	97·1	30·3	4th	66·8
June ...	82·6	79·0	84·8	85·6	81·0	89·6	12·2	77·4	11th	94·0	22·5	21st	71·5
July ...	81·2	78·0	83·2	83·8	79·7	87·5	10·8	76·7	8th	96·7	22·6	31st	74·1
August ...	81·2	78·3	83·3	83·4	79·6	87·3	11·0	76·3	26th	91·8	20·2	12th	71·6
September ...	81·9	77·8	84·4	85·4	79·8	89·5	13·4	76·1	10th	92·4	19·4	27th	73·0
October ...	79·2	74·5	81·6	83·4	77·3	86·5	13·7	72·8	9th	90·0	22·0	25th	68·0
November ...	74·9	67·8	78·5	81·0	72·4	84·7	19·1	65·6	3rd	90·5	31·9	11th	58·6
December ...	69·0	61·5	70·8	76·5	67·2	79·6	20·6	59·0	6th	85·4	33·6	27th & 28th	51·8
Year ...	77·6	71·4	80·5	82·9	75·6	86·5	17·2	69·3	.....	97·1	50·4	.....	46·7

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	68·3	61·5	69·4	76·5	66·0	77·9	17·8	60·1	7th	84·0	31·0	12th	53·0
February ...	74·5	66·5	75·7	84·6	71·3	85·1	20·5	64·6	27th	93·5	35·6	5th	57·9
March ...	80·3	73·2	81·4	89·5	77·0	90·0	18·1	71·9	23rd	99·0	35·2	10th	63·8
April ...	84·4	78·6	86·6	91·6	81·0	93·8	16·5	77·3	12th	103·5	32·5	21st	71·0
May ...	87·0	80·2	90·1	94·8	82·8	96·5	17·4	79·1	21st	106·0	35·0	4th—6th	71·0
June ...	88·2	83·3	90·4	94·3	84·7	96·0	14·0	82·0	2nd	103·0	25·0	13th	78·0
July ...	83·5	80·9	85·0	85·8	82·1	88·2	7·8	80·4	22nd	92·0	14·5	28th & 29th	77·5
August ...	83·5	80·7	84·8	86·6	82·0	88·3	8·3	80·0	25th	92·3	15·7	11th	76·6
September ...	84·5	81·3	86·5	87·3	82·8	89·7	9·0	80·7	29th	93·6	17·1	6th	76·5
October ...	82·1	77·1	84·9	87·6	78·8	89·0	12·6	76·4	3rd	93·0	23·7	31st	69·3
November ...	76·0	69·9	78·6	82·2	73·2	83·9	15·2	68·7	6th	90·7	26·7	18th	64·0
December ...	70·2	64·2	71·8	76·9	67·8	78·5	15·7	62·8	2nd	82·7	27·2	31st	55·5
Year ...	80·2	74·8	82·1	86·5	77·5	88·1	14·4	73·7	.....	106·0	53·0	.....	53·0

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

BURDWAN.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	Not recorded.												
February ...													
March ...													
April ...													
May ...													
June ...													
July ...													
August ...													
September ...	83·5	...	85·0	86·6	...	89·3	10·7	78·6	22nd	95 0	20·0	30th	75·0
October ...	79·4	...	82·0	86·8	...	88·2	16·8	71·4	3rd & 4th	91·0	30·0	31st	61·0
November ...	72·6	...	78·0	82·7	...	83·7	20·8	62·9	5th & 6th	89·0	31·5	11th	57·5
December ...	66·7	...	72·0	79·0	...	79·2	23·1	56·1	10th	84·0	34·0	30th & 31st	50·0
Year ...	...	...	...	...	...	...	...	...	.....	...	...	.....	...

JESSORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	64·9	53·6	70·8	75·9	59·2	79·3	27·3	52·0	7th	86·0	43·5	12th	42·5
February ...	72·0	58·5	77·8	85·6	66·1	87·8	30·1	57·7	27th	97·0	48·3	15th	48·7
March ...	79·3	68·8	82·8	90·9	74·5	92·9	25·5	67·4	23rd	102·0	49·8	1st	52·2
April ...	83·4	76·1	86·4	92·5	78·6	96·9	22·6	74·3	12th	107·8	41·6	29th	66·2
May ...	86·7	...	90·8	94·5	...	98·7	22·5	76·2	21st	109·9	43·1	5th	66·8
June ...	86·5	...	90·4	91·4	...	95·7	16·6	79·1	2nd	101·0	27·2	4th	73·8
July ...	83·3	...	86·0	85·5	...	89·5	10·5	79·0	20th	93·2	17·2	29th	76·0
August ...	82·6	...	85·2	85·6	...	88·7	10·6	78·1	22nd	93·3	19·8	9th	73·5
September ...	84·1	...	87·8	87·4	...	91·8	13·6	78·2	27th	97·4	20·8	30th	76·6
October ...	79·4	...	86·0	86·8	...	89·5	18·7	70·8	4th	93·2	31·4	31st	61·8
November ...	73·5	...	82·0	82·8	...	86·6	24·4	62·2	5th	91·7	37·2	11th & 12th	54·5
December ...	67·0	...	74·5	77·0	...	80·6	26·0	54·6	2nd	85·2	38·2	26th	47·0
Year ...	78·6	...	83·4	86·3	...	89·8	20·7	69·1	.....	109·9	67·4	.....	42·5

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	65·8	56·1	70·7	75·1	61·4	77·8	24·3	53·5	6th	83·2	37·5	11th & 12th	45·7
February ...	73·0	62·2	78·2	83·8	67·9	85·3	25·3	60·0	27th	92·4	39·6	15th	52·8
March ...	78·4	70·0	82·6	86·9	74·2	89·7	21·6	68·1	24th	97·2	40·3	10th	56·9
April ...	81·7	75·1	85·2	88·7	77·8	91·2	17·9	73·3	13th	100·6	34·3	29th	66·3
May ...	83·4	77·5	87·5	87·9	80·5	92·0	15·8	76·2	17th	97·9	29·9	4th & 5th	68·0
June ...	84·8	...	87·0	88·3	82·1	90·2	11·7	78·5	24th	93·5	20·3	26th	73·2
July ...	83·4	80·3	85·6	85·6	82·0	88·2	9·1	79·1	12th	91·6	14·5	2nd	77·1
August ...	82·8	...	84·5	85·1	81·6	88·0	9·3	78·7	25th	93·0	18·4	10th	74·6
September ...	84·2	80·5	86·6	87·5	82·1	90·4	11·1	79·3	11th	94·3	17·3	18th	77·0
October ...	80·4	74·2	84·9	85·8	76·8	88·8	16·0	72·8	10th	92·0	25·0	26th	67·0
November ...	75·0	66·9	80·8	81·9	70·6	85·4	20·5	64·9	3rd	93·6	34·6	22nd	59·0
December ...	68·6	59·8	73·5	76·7	64·4	79·9	22·5	57·4	1st & 2nd	84·0	32·5	27th	51·5
Year ...	78·5	...	82·6	84.4	75·1	87·2	17·1	70·1	.....	100·6	54·9	.....	45·7

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	62·9	53·2	63·5	74·5	60·6	76·5	25·1	51·4	30th	83·0	37·0	10th	46·0
February ...	68·4	58·4	68·9	80·7	65·6	82·1	25·5	56·6	21st	87·0	37·0	12th & 13th	50·0
March ...	72·4	64·9	73·4	81·4	69·8	83·1	20·2	62·9	30th	90·0	36·0	10th	54·0
April ...	77·3	70·7	79·0	84·3	75·3	86·9	17·6	69·3	18th	94·5	29·5	27th—29th	65·0
May ...	81·7	74·3	83·3	90·1	79·1	91·6	18·9	72·7	20th—22nd	97·0	31·0	9th	66·0
June ...	81·6	78·6	82·6	84·5	80·6	89·3	12·4	76·9	30th	94·5	22·5	3rd	72·0
July ...	82·9	78·8	84·3	87·8	80·8	90·8	13·2	77·6	13th	96·7	21·7	31st	75·0
August ...	82·0	78·1	83·7	86·2	80·2	89·9	13·1	76·8	25th & 26th	95·0	20·0	31st	750
September ...	82·1	...	82·8	87·1	80·4	89·8	13·9	75·9	11th	97·0	25·0	28th	72·0
October ...	78·8	73·4	79·6	85·1	77·1	86·9	15·2	71·7	10th	92·0	28·0	25th & 26th	64·0
November ...	72·5	64·5	75·4	81·5	68·5	83·9	21·3	62·6	3rd	90·0	33·0	25th	57·0
December ...	66·0	57·5	68·4	76·3	62·0	78·6	23·4	55·2	5th	84·0	35·0	31st	49·0
Year ...	75·7	...	77·1	83·3	73·3	85·8	18·3	67·5	.....	97·0	51·0	.....	46·0

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

HAZAREEBAGH.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	61·6	...	65·3	71·4	57·8	73·9	22·7	51·2	7th	81·0	40·0	9th	41·0
February ...	67·7	...	71·8	78·7	64·3	80·5	24·4	56·1	25th & 26th	91·0	43·0	13th	48·0
March ...	76·5	...	78·8	83·6	70·0	86·2	24·1	62·1	29th—31st	96·0	45·0	9th	51·0
April ...	84·8	...	90·9	95·6	81·0	98·5	26·5	72·0	27th	103·0	39·0	21st	64·0
May ...	84·3	...	90·9	94·7	82·4	98·3	24·0	74·3	23rd	106·5	41·0	6th	65·5
June ...	86·3	...	92·3	94·3	84·8	100·2	21·8	78·4	2nd & 3rd	106·0	34·0	20th	72·0
July ...	78·4	...	79·0	81·2	77·1	85·0	11·3	73·7	1st	92·0	21·0	29th & 30th	71·0
August ...	78·2	...	80·2	80·4	76·4	84·8	12·0	72·8	27th & 28th	89·0	18·0	10th	71·0
September ...	77·5	...	80·7	81·7	...	86·0	14·4	71·6	27th	89·0	21·0	29th	68·0
October ...	73·2	...	79·1	81·0	...	84·3	19·3	65·0	21st	86·5	27·0	27th	59·5
November ...	68·4	...	74·0	75·8	....	79·6	22·0	57·6	7th	86·0	35·0	23rd	51·0
December ...	61·8	...	66·4	71·1	...	74·8	24·6	50·2	27th	80·0	35·5	29th	44·5
Year ...	74·9	...	79·1	82·5	...	86·0	20·6	65·4	.....	106·5	65·5	.....	41·0

BERHAMPORE.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	64·7	54·4	69·3	76·4	58·6	77·7	25·5	52·2	6th	85·0	40·5	10th	44·5
February ...	71·5	59·6	76·2	84·8	65·5	86·3	29·2	57·1	26th & 27th	96·5	47·0	14th	49·5
March ...	78·2	67·1	82·3	89·5	74·0	91·4	26·2	65·2	23rd	100·0	45·5	2nd	54·5
April ...	85·9	75·8	89·4	97·5	81·0	99·9	25·5	74·4	14th	108·0	41·0	29th	67·0
May ...	89·9	80·0	94·4	99·9	85·4	102·6	24·0	78·6	22nd & 23rd	112·5	43·0	5th	69·5
June ...	89·2	82·5	92·3	96·4	85·6	101·4	20·4	81·0	26th	112·5	37·5	5th	75·0
July ...	84·9	80·9	87·2	88·5	82·9	92·1	12·0	80·1	8th	98·5	21·5	29th	77·0
August ...	84·2	80·6	86·7	87·0	82·4	90·8	11·1	79·7	25th & 26th	95·0	19·0	10th	76·0
September ...	85·2	80·9	87·5	89·6	82·9	92·4	12·9	79·5	27th & 28th	96·0	20·0	29th	76·0
October ...	81·2	73·3	85·9	88·3	77·3	90·5	18·6	71·9	3rd	95·0	32·5	31st	62·5
November ...	74·3	65·1	78·3	83·6	70·3	85·8	22·5	63·3	3rd	91·5	35·5	12th	56·0
December ...	67·7	57·9	71·6	78·4	62·8	80·2	25·1	55·1	2nd	84·5	37·5	31st	47·0
Year ...	79·7	71·5	83·4	88·3	75·7	90·9	21·1	69·8	.....	112·5	68·0	.....	44·5

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

GYA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	65·0	55·5	67·9	75·3	61·2	76·7	24·8	51·9	6th	83·1	40·6	13th	42·5
February ...	72·0	60·8	76·2	83·2	67·7	85·4	28·9	56·5	25th	96·7	49·7	4th	47·0
March ...	80·0	...	84·4	90·2	75·7	92·7	27·2	65·5	31st	102·7	46·7	10th	56·0
April ...	Not recorded.												
May ...													
June ..													
July ...													
August ...	83·8	...	85·9	87·3	...	90·6	12·4	78·2	27th & 28th	95·4	21·1	11th	74·3
September...	84·7	...	87·2	88·6	...	92·2	14·3	77·9	11th	95·2	22·2	28th	73·0
October ...	79·7	...	84·5	88·5	...	91·2	24·2	67·0	16th	93·7	32·9	29th	60·8
November ...	72·9	...	76·7	82·9	...	85·0	26·5	58·5	6th	91·2	39·4	29th	51·8
December ...	62·3	...	67·7	75·6	...	77·3	30·9	46·4	27th	81·8	36·8	16th	45·0

PATNA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	61·8	51·3	66·8	71·4	57·8	73·6	24·2	49·4	30th	79·0	36·9	10th	42·1
February ...	Not recorded.												
March ...													
April ...													
May ...	91·2	...	96·0	100·7	87·5	103·6	24·1	79·5	22nd	109·3	37·9	5th	71·4
June ...	91·0	...	93·6	100·0	...	102·8	21·3	81·5	3rd	111·2	36·1	19th	75·1
July ...	86·3	...	87·2	89·4	...	93·7	13·4	80·3	1st	103·2	28·3	18th	74·9
August ...	84·9	...	86·5	88·0	...	90·5	10·2	80·3	27th	97·3	21·3	11th	76·0
September ...	85·7	...	88·6	90·2	...	92·5	13·1	79·4	27th	95·7	20·5	30th	75·2
October ...	79·8	...	86·0	88·8	...	91·6	24·5	67·1	2nd	94·6	33·3	31st	61·3
November ...	71·7	...	76·9	81·0	...	84·6	27·2	57·4	6th	91·0	41·4	29th	49·6
December ...	63·6	...	67·5	72·7	...	76·0	26·6	49·4	1st	81·6	36·2	31st	45·4

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

DEHREE.

	Mean.	10h.	16h.	Mean of maxima.	Mean daily range.	Mean of minima.
January	66·1	67·9	75·2	78·1	24·7	53·4
February	73·5	74·5	83·5	85·8	26·1	59·7
March	80·8	82·3	91·3	93·8	27·7	66·1
April	91·5	94·3	103·1	105·9	29·9	76·0
May	94·3	96·6	103·2	106·3	24·5	81·8
June	95·9	98·5	104·9	108·1	22·6	85·5
July	85·1	85·4	91·5	92·1	12·4	79·7
August	84·9	86·6	87·5	91·1	11·2	79·9
September	85·8	87·0	90·1	93·1	13·9	79·2
October	81·4	83·9	89·9	92·9	24·2	68·7
November	74·9	76·7	83·4	86·8	26·1	60·7
December	65·9	67·7	75·5	78·3	25·7	52·6
Year ...	81·7	75·1	89·9	92·7	22·4	70·3

MONGHYR.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest maximum. Day.	Highest maximum. ⊖	Absolute range.	Lowest minimum. Day.	Lowest minimum. ⊖
January ...	62·6	54·3	64·0	72·6	59·4	72·9	20·1	52·8	6th	78·3	32·4	11th	45·9
February ...	69·4	59·1	71·3	81·1	65·9	82·0	24·5	57·5	25th—27th	90·9	40·9	13th	50·0
March ...	77·1	67·6	79·6	87·4	73·9	88·3	22·2	66·1	30th	97·9	40·3	9th	57·6
April ...	84·7	73·4	87·5	96·1	81·7	96·7	24·6	72·1	18th	104·9	38·8	29th	66·1
May ...	89·5	79·2	92·4	99·9	86·7	100·6	22·4	78·2	20th—22nd	106·9	36·8	5th	70·1
June ...	89·8	82·7	92·3	96·9	87·2	98·0	16·2	81·8	3rd	110·9	34·7	12th	76·2
July ...	84·7	80·7	85·5	89·4	83·1	90·0	9·8	80·2	17th	95·9	17·7	30th	78·2
August ...	84·1	80·8	85·2	87·3	83·0	88·0	7·7	80·3	26th & 27th	93·9	18·2	13th	75·7
September ...	84·6	80·8	86·1	88·5	83·0	89·3	9·0	80·3	27th	92·9	16·7	29th	76·2
October ...	79·5	71·6	82·4	88·2	75·8	89·0	17·8	71·2	2nd & 3rd	91·9	26·3	30th	65·6
November ...	72·4	63·7	74·9	82·4	68·4	82·9	20·3	62·6	5th	89·4	32·9	29th	56·5
December ...	64·3	55·8	66·3	74·3	60·9	75·0	20·2	54·8	17th	78·8	28·8	30th	50·0
Year ...	78·6	70·8	80·6	87·0	75·8	87·7	17·9	69·8	.....	110·9	65·0	.....	45·9

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Continued.*)

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest maximum. Day.	Highest maximum. ⊖	Absolute range.	Lowest minimum. Day.	Lowest minimum. ⊖
January ...	40·9	34·4	46·4	44·8	38·0	52·4	19·7	32·7	1st & 2nd	63·0	35·0	12th & 13th	28·0
February ...	48·0	40·9	53·0	53·6	44·6	57·7	18·0	39·7	23rd	64·0	30·0	2nd & 3rd	34·0
March ...	49·5	43·1	54·6	53·9	46·4	58·8	16·6	42·2	30th	65·0	32·8	9th	32·2
April ...	56·0	49·8	61·0	60·3	52·9	63·8	14·8	49·0	19th	68·0	24·6	21st	43·4
May ...	59·9	53·9	64·0	64·9	56·9	68·4	15·8	52·6	27th	77·0	29·6	7th	47·4
June ...	63·7	58·9	66·5	67·6	61·6	70·3	12·3	58·0	26th & 27th	75·0	20·8	12th	54·2
July ...	64·7	60·7	67·2	68·0	62·9	70·3	10·8	59·5	16th	75·0	16·8	24th & 25th	58·2
August ...	63·5	59·4	66·1	67·0	61·5	69·8	11·3	58·5	28th	73·0	16·8	23rd	56·2
September ...	62·2	57·8	65·1	65·8	60·1	69·0	12·2	56·8	11th	73·0	20·8	29th	52·2
October ...	55·7	48·2	60·3	62·2	52·1	66·5	19·4	47·1	5th	71·0	27·6	31st	43·4
November ...	50·4	43·0	56·0	56·5	46·1	60·2	18·7	41·5	4th	67·0	28·8	20th—22nd	38·2
December ...	44·7	38·7	48·1	49·8	42·0	53·1	16·2	36·9	1st	60·0	30·8	29th	29·2
Year ...	54·9	49·1	59·0	59·5	52·1	63·4	15·5	47·9	.....	77·0	49·0	.....	28·0

GOALPARA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest maximum. Day.	Highest maximum. ⊖	Absolute range.	Lowest minimum. Day.	Lowest minimum. ⊖
January ...	62·9	54·0	64·6	70·2	62·7	71·8	21·1	50·7	29th	77·5	34·5	10th	43·0
February ...	69·8	60·7	73·7	76·5	68·3	81·1	23·3	57·8	27th	89·1	38·5	3rd	50·6
March ...	72·8	64·2	76·4	79·3	71·5	83·9	24·1	59·8	30th	89·4	37·2	9th	52·2
April ...	74·7	68·7	76·3	81·1	72·6	83·9	18·2	65·7	15th	89·1	28·9	26th & 27th	60·2
May ...	80·2	73·7	82·2	86·2	78·7	89·0	18·5	70·5	27th	95·5	33·7	3rd	61·8
June ...	79·2	...	80·6	83·9	79·5	85·6	12·3	73·3	1st	95·4	26·9	3rd	68·5
July ...	82·3	...	83·9	85·9	...	88·7	12·6	76·1	21st	99·7	26·4	30th	73·3
August ...	81·8	...	84·3	85·3	...	88·8	13·3	75·5	26th	92·5	19·5	19th	73·0
September ...	81·4	...	82·6	86·3	...	88·5	14·2	74·3	24th	92·6	24·7	29th	67·9
October ...	78·3	...	80·8	86·1	...	87·6	18·9	68·7	6th	90·1	26·1	29th	64·0
November ...	70·4	...	71·7	79·7	...	81·3	22·3	59·0	4th & 5th	88·4	37·0	26th	51·4
December ...	65·9	...	64·7	74·9	...	76·3	22 3	54·0	10th	80·0	33·2	27th	46·8
Year ...	75·0	...	76·8	81·3	...	83·9	18·4	65·5	.....	99·7	56·7	.....	43·0

TABLE IX.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1873.—(*Concluded.*)

BENARES.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest maximum. Day.	Highest maximum. ⊖	Absolute range.	Lowest minimum. Day.	Lowest minimum. ⊖
January ...	61·7	49·1	66·3	75·7	55·6	77·0	31·3	45·7	5th & 6th	85·0	47·0	12th	38·0
February ...	68·0	54·8	73·6	83·3	60·4	85·1	33·8	51·3	25th & 26th	96·0	56·0	13th	40·0
March ...	77·7	63·1	84·7	92·9	70·2	94·7	34·9	59·8	29th—31st	103·0	57·0	2nd	46·0
April ...	88·7	73·6	96·4	104·2	80·6	105·2	34·9	70·3	26th	109·0	47·0	6th	62·0
May ...	92·3	80·6	98·1	103·3	87·1	106·0	27·6	78·4	23rd	114·0	45·0	6th	69·0
June ...	97·0	88·2	99·0	107·4	93·3	109·4	24·8	84·6	10th	115·0	37·0	20th	78·0
July ...	86·0	82·7	87·2	89·5	84·8	93·5	13·5	80·0	1st	116·0	41·0	19th	75·0
August ...	85·0	80·4	87·6	89·4	82·6	89·9	11·6	78·3	21st	95·0	20·0	12th	75·0
September ...	84·8	78·7	86·9	90·3	83·3	Not recorded.							
October ...	77·2	65·0	82·4	89·9	71·6								
November ...	68·7	54·0	72·5	83·0	65·4								
December ...	60·6	47·2	66·9	73·6	54·9								
Year ...	79·0	68·1	83·5	90·2	74·2	...	...	...	.....	116·0	78·0	.....	38·0

ROORKEE.

	Mean.	4h.	10h.	16h.	22h.	Mean of maxima.	Mean daily range.	Mean of minima.	Highest maximum. Day.	Highest maximum. ⊖	Absolute range.	Lowest minimum. Day.	Lowest minimum. ⊖
January ...	57·7	46·7	60·1	70·0	53·9	74·4	31·0	43·4	14th	85·7	51·0	10th	34·7
February ...	64·4	52·9	66·9	77·6	60·3	80·3	31·4	48·9	23rd	90·0	48·8	12th & 13th	41·2
March ...	73·3	59·9	78·0	86·3	69·0	88·8	32·0	56·8	30th & 31st	99·2	56·5	1st	42·7
April ...	84·9	69·0	91·2	99·2	80·1	100·9	35·4	65·5	27th	105·7	50·0	7th	55·7
May ...	85·2	73·4	90·6	95·8	81·0	98·9	27·7	71·2	24th	121·1	48·9	15th	63·2
June ...	94·6	82·1	97·9	106·7	91·7	108·3	27·9	80·4	6th	113·6	41·3	1st	72·3
July ...	85·6	80·7	87·3	90·5	84·0	94·2	15·2	79·0	1st	110·1	36·8	3rd	73·3
August ...	83·9	78·8	86·6	88·8	81·4	91·8	14·3	77·5	30th	96·7	23·9	9th	72·8
September ...	80·9	75·2	83·4	86·8	78·1	89·7	16·8	72·9	27th	94·2	28·0	29th	66·2
October ...	73·5	61·6	79·5	85·8	67·2	88·0	29·5	58·5	1st	92·2	45·5	31st	46·7
November ...	65·9	51·4	71·4	78·1	59·3	81·3	32·6	48·7	4th	86·2	42·5	29th	43·7
December ...	58·1	47·7	61·1	69·8	53·9	73·8	29·8	44·0	16th	80·2	42·5	7th	37·7
Year ...	75·6	64·9	79·5	86·3	71·7	89·2	27·0	62·2	.....	113·6	78·9	.....	34·7

TABLE X.—MEAN MONTHLY TEMPERATURES OF ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND CEYLON IN 1873.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Jhansi	61·7	70·	79·5	90·7	91·5	96·0	83·2	82·7	81·	78·2	71·5	62·5	79·0
Allahabad	61·7	68·2	78·0	88·7	91·5	96·8	84·5	84·5	83·7	76·2	68·5	60·2	78·5
Lucknow	61·5	67·5	76·2	88·7	91·0	97·0	86·2	86·0	84·2	77·5	66·7	60·2	78·6
Agra	62·7	69·5	78·5	90·0	89·0	96·5	85·5	83·5	80·5	75·2	67·7	61·0	78·3
Ajmere	60·2	68·5	78·7	88·2	90·5	94·2	83·2	82·2	83·5	78·2	69·7	61·7	78·2
Bareilly	58·5	64·2	73·5	85·0	86·7	93·7	84·7	84·0	81·0	74·2	65·0	58·5	75·7
Meerut	59·0	66·0	74·7	85·7	87·0	95·5	86·0	85·2	82·2	75·0	65·7	56·5	76·5
Saugor	63·6	68·5	77·0	85·8	87·0	87·6	76·4	75·0	74·9	74·1	69·4	63·5	75·2
Jubbulpore	61.3	67·7	75·0	86·0	88·7	89·6	77·6	78·9	78·0	71·9	66·8	61·1	75·2
Hoshungabad	66·8	71·4	78·8	88·5	92·0	91·4	78·5	78·7	78·6	75·4	72·4	67·4	78·3
Goruckpore	60·0	67·2	76·5	85·2	89·0	92·0	84·7	84·2	84·5	79·2	70·3	61·5	77·9
Chanda	66·4	75·3	80·4	89·8	88·3	87·3.	80·0	79·1	78·5	75·0	71·2	67·1	78·2
Raipur	67·7	72·6	78·2	88·8	88·7	87·8	78·2	79·1	78·8	75·7	70·3	66·0	77·9
Sumbulpore	65·0	69·5	74·3	87·1	88·5	88·7	72·9	78·1	82·5	79·5	73·3	68·8	77·3
Akola	66·8	73·4	78·2	89·1	90·2	84·1	78·6	77·4	76·5	73·5	...	...	...
Omraoti	68·7	73·4	80·6	88·2	88·4	83·9	78·4	76·6	76·7	71·5	...	...	...
Khandwa	67·0	72·6	80·2	88·0	90·6	86·1	76·8	77·7	76·8	75·0	...	66·5	...
Seoni	64·4	69·3	74·5	83·6	84·6	83·8	75·5	75·8	74·8	70·1	66·6	62·1	73·8
Nagpore	68·7	74·8	80·8	88·5	91·4	87·2	78·6	79·7	78·1	75·9	72·1	64·7	78·4
Jaffna	77·2	79·8	82·3	83·5	85·3	83·9	82·8	82·9	82·0	80·8	79·3	78·3	81·5
Trincomalee	79·0	78·8	81·0	82·7	84·0	85·2	85·5	82·9	84·4	81·8	78·7	78·7	81·9
Colombo	79·6	79·2	81·4	82·6	82·2	81·4	80·6	81·3	80·8	80·3	79·8	79·7	80·7
Galle	78·2	78·7	80·9	81·6	82·0	80·3	79·0	79·3	79·4	80·1	79·2	78·7	79·8

TABLE XI.—MONTHLY MEAN TEMPERATURES OF 1873 REDUCED TO SEA-LEVEL.

STATIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle ...	78·3	78·8	81·0	81·7	82·1	80·4	79·1	79·4	79·5	80·2	79·3	78·8	79·9
Colombo ...	79·7	79·3	81·5	82·7	82·3	81·5	80·7	81·4	80·9	80·4	79·9	79·8	80·8
Trincomalee ...	79·4	79·2	81·4	83·1	84·4	85·6	85·9	83·3	84·8	82·2	79·1	79·1	82·3
Jaffna ...	77·2	79·8	82·3	83·5	85·3	83·9	82·8	82·9	82·0	80·8	79·3	78·3	81·5
Nancowry ...	...	...	...	...	81·1	80·3	80·9	79·1	77·4	77·1	77·8	76·8	...
Port Blair ...	78·9	79·8	81·7	83·8	82·9	80·8	80·9	81·1	80·4	80·1	81·2	80·4	81·0
Madras ...	77·0	78·2	82·1	84·7	86·7	89·6	88·6	86·1	85·1	79·4	77·8	77·1	82·7
Vizagapatam ...	75·9	79·2	83·0	86·3	88·3	90·1	84·1	85·2	85·0	81·1	77·6	75·2	82·6
Akyab ...	67·8	72·0	77·9	80·9	84·4	80·6	80·2	81·4	81·4	80·8	77·2	72·2	78·1
False Point ...	71·4	75·3	80·4	83·1	84·9	87·0	83·2	83·8	84·1	80·7	74·2	70·3	79·9
Cuttack ...	72·2	77·2	82·4	86·6	88·7	89·6	82·7	83·3	83·5	80·8	74·8	71·3	81·1
Saugor Island ...	68·5	73·3	78·6	83·5	85·8	88·3	84·3	83·6	84·6	80·1	74·8	70·0	79·6
Chittagong ...	66·6	73·0	78·0	81·6	83·3	82·8	81·4	81·4	82·1	79·4	75·1	69·2	77·8
Calcutta ...	68·3	74·5	80·3	84·4	87·0	88·2	83·5	83·5	84·5	82·1	76·0	70·2	80·2
Burdwan ...	...	...	...	...	...	...	...	...	...	81·4	72·7	71·0	...
Jessore ...	64·9	72·0	79·3	83·4	86·7	86·5	83·3	82·6	84·1	79·4	73·5	67·0	78·6
Dacca ...	65·8	73·0	78·4	81·7	83·4	84·8	83·4	82·8	84·2	80·4	75·0	68·6	78·5
Silchar ...	63·1	68·6	72·6	77·5	81·9	81·8	83·1	82·2	82·3	79·0	72·7	66·2	75·9
Goalpara ...	63·7	70·6	73·6	75·5	81·0	80·0	83·1	82·6	82·2	79·1	71 2	66·7	75·8
Berhampore ...	64·8	71·6	78·3	86·0	90·0	89·3	85·0	84·3	85·3	81·3	74·4	67·8	79·8
Monghyr ...	63·0	69·8	77·5	85·1	89·9	90·2	85·1	84·5	85·0	79·9	72·8	64·7	79·0
Hazareebagh ...	66·0	72·1	80·9	89·2	88·7	90·7	82·8	82·6	81·9	77·6	72·8	66·2	79·3
Gya ...	65·8	72·8	80·8	...	...	...	...	84·6	85·5	80·5	73·7	63·1	....
Dehree ...	66·9	74·3	81·6	92·3	95·1	96·7	85·9	85·7	86·6	82·2	75·7	66·7	82·5
Patna ...	62·2	...	...	...	91·6	91·4	86·7	85·3	86·1	80·2	72·1	64·0	...
Goruckpore ...	60·6	67·8	77·1	85·8	89·6	92·6	85·3	84·8	85·1	79·8	70·9	62·1	78·5
Benares ...	62·3	68·6	78·3	89·3	92·9	97·6	86·6	85·6	85·4	77·8	69·3	61·2	79·6
Jhansi ...	63·5	71·8	81·3	92·5	93·3	97·8	85·0	84·5	82·8	80·0	73·3	64·3	80·8
Allahabad ...	62·3	68 8	78·6	89·3	92·1	97·4	85·1	85·1	84·3	76·8	69·1	60·8	79·1
Lucknow ...	62·3	68·3	77·0	89·5	91·8	97·8	87·0	86·8	85·0	78·3	67·5	61·0	79·4
Agra ...	63·9	70·7	80·7	91·2	90·2	97·7	86·7	84·7	81·7	76·4	68·9	62·2	79·6
Bareilly ...	59·8	65·5	74·8	86·3	88·0	95·0	86·0	85·3	82·3	75·5	66·3	59·8	77·0
Roorkee ...	59·7	66·4	75·3	86·9	87·2	96·6	87·6	85·9	82·9	75·5	67·0	60 1	77·6
Meerut ...	60·6	67·6	76·3	87·3	88·6	97·1	87·6	86·8	83·8	76·6	67·3	58·1	78·1
Ajmere ...	64·2	72·5	82·7	92·2	94·5	98·2	87·2	86·2	87·5	82·2	73·7	65 7	82·2
Saugor ...	67·9	72·8	83·3	90·1	91·3	91·9	80·7	79·3	79·2	78·4	73·7	67·8	79·7
Jubbulpore ...	64·3	70·7	78·0	89·0	91·7	82·6	80·6	81·9	81·0	74·9	69·8	64·1	78·2
Khandwa ...	69·5	75·1	82·7	90·5	93·1	88·6	79·3	80·2	79·3	77·5	...	69·0	...
Hoshungabad ...	69·0	73·6	81·0	90·7	94·2	93·6	80·7	80·9	80·3	77·6	74·6	69·6	80·5
Seoni ...	68·9	73·8	79·0	88·1	89·1	88·3	80·0	80·3	79·3	74·6	71·1	66·6	78·3
Nagpore ...	71·0	77·1	83·1	90·8	93·7	89·5	80·9	82·0	80·4	78·2	74·4	67·0	80·7
Raipore ...	69·9	74·8	80·4	91·0	90·9	90·0	80·4	81·3	81·0	77·9	72·5	68·2	79·9
Sumbulpore ...	66·0	70·5	75·3	88·1	89·5	89·7	73·9	79·1	83·5	80·5	74·3	69·8	78·3
Chanda ...	67·8	76·7	81·8	91·2	89·7	88·7	81·4	80·5	79·9	76·4	72·6	68·5	79·6
Akola ...	68·9	75·5	80·3	91·2	92·3	86·2	80·7	79·5	78·6	75·6	...	...	...
Omraoti ...	71·3	76·0	83·2	90·8	91·0	86·5	81·0	79·2	79·3	74·1	...	...	...

TABLE XII.—AVERAGE MONTHLY TEMPERATURES DEDUCED FROM THE REGISTERS OF 1867—73.

Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle ...	4—5	78·2	79·7	81·5	82·0	82·2	80·6	79·9	79·9	79·8	80·2	79·5	79·0	80·2
Colombo ...	4—5	80·0	80·6	82·1	83·3	83·7	81·7	81·0	81·1	80·9	81·2	81·0	80·9	81·5
Trincomalee...	4—5	78·7	79·6	82·2	84·5	85·8	85·8	85·3	85·9	83·8	81·2	78·9	78·8	82·5
Port Blair ...	6	78·9	79·3	81·3	83·9	81·8	81·6	80·5	80·4	79·7	80·0	80·2	79·4	80·6
Madras ...	6	77·0	79·3	82·7	85·6	88·8	87·8	86·3	85·9	84·4	81·6	78·4	77·4	82·9
Vizagapatam...	4	76·8	79·1	83·2	86·3	88·7	87·7	84·4	85·4	84·7	82·8	79·9	76·1	82·9
Akyab ...	4—6	69·9	73·2	78·7	83·7	84·2	82·2	80·8	81·0	81·9	81·0	77·7	72·1	78·9
False Point ...	6	71·3	75·3	80·4	84·0	86·8	86·4	84·7	84·8	85·0	83·4	77·0	70·9	80·8
Cuttack ...	6	70·9	75·2	81·1	86·2	89·2	86·4	83·5	83·3	83·1	81·1	74·7	70·1	80·4
Saugor Island	5—6	69·3	74·4	80·5	84·1	85·8	85·7	83·7	83·7	82·9	80·9	74·3	68·6	79·5
Calcutta ...	6	68·8	73·4	80·3	84·1	85·6	84·7	83·3	83·2	83·0	81·7	75·5	69·1	79·4
Chittagong ...	6	67·5	71·7	78·1	81·5	82·9	82·0	81·0	81·2	81·5	80·2	74·6	68·5	77·6
Jessore ...	6	65·9	70·9	79·7	83·0	85·5	84·4	83·0	83·0	83·0	80·2	72·7	65·6	78·1
Dacca ...	5—6	66·8	72·3	79·6	82·0	83·4	83·8	83·2	83·5	83·3	81·3	75·1	68·6	78·6
Silchar ...	4—5	64·0	68·2	74·0	78·0	81·2	81·8	82·1	81·9	81·4	79·9	72·5	65·6	75·9
Goalpara ...	5	63·9	68·4	74·0	77·2	78·7	79·8	81·4	81·5	80·4	77·8	71·2	66·0	75·0
Darjeeling ...	6	42·5	44·7	50·8	56·1	60·1	63·1	63·9	63·9	62·0	57·5	50·5	44·6	55·0
Berhampore...	6	65·2	70·3	78·7	85·6	87·1	85·6	84·2	84·1	83·8	81·5	74·1	66·8	78·9
Monghyr ...	6	62·7	68·4	77·5	84·8	87·5	87·1	84·2	83·9	83·2	80·2	71·8	64·0	77·9
Hazareebagh...	5—6	61·6	66·1	75·1	83·0	85·9	82·6	78·8	78·0	77·4	74·2	68·3	61·8	74·4
Patna ...	5—6	61·0	65·9	77·2	84·3	88·1	88·2	84·0	83·8	83·0	79·0	69·8	62·4	77·2
Goruckpore ...	5	60·1	65·3	75·1	83·6	88·7	87·2	82·9	82·3	82·1	77·8	68·8	61·0	76·2
Benares ...	5—7	59·3	67·3	76·4	86·5	91·5	91·2	85·7	85·0	84·0	78·8	68·7	59·9	77·9
Jhansi ...	6—7	61·6	69·3	77·8	87·2	94·1	91·6	83·3	82·0	82·0	78·8	72·1	63·7	78·6
Allahabad ...	4—5	60·5	65·9	77·8	85·4	91·2	90·0	83·9	82·3	82·2	77·8	68·7	61·3	77·2
Lucknow ...	6	60·0	66·4	76·0	85·9	91·7	91·7	86·0	85·9	83·5	78·6	68·4	60·6	77·9
Bareilly ...	6—7	57·4	62·8	73·2	82·0	88·4	89·2	83·9	83·1	82·0	76·1	66·3	58·8	75·3
Roorkee ...	7	57·5	62·1	70·6	81·1	88·1	89·9	84·4	83·9	82·5	75·5	64·3	57·8	74·8
Agra ...	6—7	59·3	65·5	75·7	85·8	92·5	93·1	86·1	83·8	82·9	78·9	69·7	62·1	77·9
Ajmere ...	6—7	59·2	66·5	75·1	85·8	91·8	91·7	84·8	82·4	84·3	79·4	70·9	63·6	78·0
Saugor ...	3—4	63·0	68·8	78·4	84·3	88·1	84·6	76·8	75·4	76·1	75·9	71·3	65·4	75·7
Jubbulpore ...	4—5	62·7	66·5	74·6	84·4	90·6	88·1	78·6	78·1	78·6	75·8	66·8	62·2	75·4
Hoshungabad	4—5	66·9	71·4	79·1	88·3	93·2	88·1	78·9	78·7	79·5	77·2	72·0	68·7	78·5
Nagpore ...	4—5	69·8	74·7	81·8	87·5	93·4	86·8	78·6	78·9	78·7	76·8	71·7	67·9	78·9
Raipore ...	4—5	68·0	70·6	79·7	87·7	92·5	86·7	78·2	79·4	79·4	77·0	70·7	67·4	78·1
Chanda ...	3—4	67·8	73·9	81·1	89·5	91·7	86·8	79·2	79·3	78·6	75·9	71·3	67·5	78·6

TABLE XIII.—COMPARISON OF THE TEMPERATURES OF 1873 WITH THE AVERAGES OF TABLE XII.

STATIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle ...	0	—1·0	—0·6	—0·4	—0·2	—0·3	—0·9	—0·6	—0·4	—0·1	—0·3	—0·3	—0·4
Colombo ...	—0·4	—1·4	—0·7	—0·7	—1·5	—0·3	—0·4	+0·2	—0·1	—0·9	—1·2	—1·2	—0·7
Trincomalee ...	+0·3	—0·8	—1·2	—1·8	—1·8	—0·6	+0·2	—3·0	+0·6	+0·6	—0·2	—0·1	—0·6
Port Blair ...	—0·1	+0·4	+0·3	—0·2	+1·0	—0·9	+0·3	+0·6	+0·6	0	+0·9	+0·9	+0·3
Madras ...	0	—1·1	—0·6	—0·9	—2·1	+1·8	+2·3	+0·2	+0·7	—2·2	—0·6	—0·3	—0·2
Vizagapatam ...	—1·0	0	—0·3	—0·1	—0·5	+2·3	—0·4	—0·3	+0·2	—1·8	—2·4	—1·0	—0·4
Akyab ...	—2·1	—1·2	—0·8	—2·8	+0·2	—1·6	—0·6	+0·4	—0·5	—0·2	—0·5	+0·1	—0·8
False Point ...	+0·1	0	0	—0·9	—1·9	+0·6	—1·5	—1·0	—0·9	—2·7	—2·8	—0·6	—1·0
Cuttack ...	+1·1	+1·8	+1·1	+0·2	—0·7	+3·0	—1·0	—0·2	+0·2	—0·5	—0·1	+1·0	+0·5
Saugor Island ...	—0·8	—1·1	—1·9	—0·6	0	+2·6	—0·7	+0·1	+1·7	—0·5	+0·5	+1·4	+0·1
Chittagong ...	—0·9	+1·1	—0·3	—0·1	+0·2	+0·6	—0·2	0	+0·4	—1·0	+0·3	+0·5	0
Calcutta ...	—0·5	+1·1	0	+0·3	+1·4	+3·5	+0·2	+0·3	+1·5	+0·4	+0·5	+1·1	+0·8
Jessore ...	—1·0	+1·1	—0·4	+0·4	+1·2	+2·1	+0·3	—1·0	+1·1	—0·8	+0·8	+1·4	+0·4
Dacca ...	—1·0	+0·7	—1·2	—0·3	0	+1·0	+0·2	—0·7	+0·9	—0·9	—0·1	0	—0·1
Silchar ...	—1·1	+0·2	—1·6	—0·7	+0·5	—0·2	+0·8	+0·1	+0·7	—1·1	0	+0·4	—0·2
Berhampore ...	—0·5	+1·2	—0·5	+0·3	+2·8	+3·6	+0·7	+0·1	+1·4	—0·3	+0·2	+0·9	+0·8
Goalpara ...	—1·0	+1·4	—1·2	—2·5	+1·5	—0·6	+0·9	+0·3	+1·0	+0·5	—0·8	—0·1	0
Darjeeling ...	—1·6	+3·3	—1·3	—0·1	—0·2	+0·6	+0·8	—0·4	+0·2	—1·8	—0·1	+0·1	0
Monghyr ...	—0·1	+1·0	—0·4	—0·1	+2·0	+2·7	+0·5	+0·2	+1·4	—0·7	+0·6	+0·3	+0·6
Hazareebagh ...	0	+1·6	+1·4	+1·8	—1·6	+3·7	—0·4	+0·2	+0·1	—1·0	+0·4	0	+0·5
Patna ...	+0·6	...	...	...	+3·1	+2·8	+2·3	+1·1	+2·7	+0·8	+1·9	+1·2	...
Benares ...	+1·6	+0·7	+1·3	+2·2	+0·8	+5·8	+0·3	0	+0·8	—1·6	0	+0·7	+1·1
Jhansi ...	+0·1	+0·7	+1·7	+2·5	—2·6	+4·4	—0·1	+0·7	—1·0	—0·6	—0·6	—1·2	+0·3
Goruckpore ...	—1·0	+1·9	+1·4	+1·6	+0·3	+4·8	+1·8	+1·9	+2·4	+1·4	+1·5	+0·5	+1·6
Allahabad ...	+1·2	+2·3	+0·2	+3·3	+0·3	+6·8	+0·6	+2·2	+1·5	—1·6	—0·2	—1·1	+1·3
Lucknow ...	+1·5	+1·1	+0·2	+2·8	—0·7	+5·3	+0·2	+0·1	+0·7	—1·1	—1·7	—0·4	+0·7
Bareilly ...	+1·1	+1·4	+0·3	+3·0	—1·7	+4·5	+0·8	+0·9	—1·0	—1·9	—1·3	—0·3	+0·5
Agra ...	+3·4	+4·0	+2·8	+4·2	—3·5	+3·4	—0·6	—0·3	—2·4	—3·7	—2·0	—1·1	+0·4
Ajmere ...	+1·0	+2·0	+3·6	+2·4	—1·3	+2·5	—1·6	—0·2	—0·8	—1·2	—1·2	—1·9	+0·3
Roorkee ...	+0·2	+2·3	+2·7	+3·8	—2·9	+4·7	+1·2	0	—1·6	—2·0	+0·7	+0·3	+0·8
Saugor ...	+0·6	+0·3	—1·4	+1·5	—1·1	+3·0	—0·4	—0·4	—1·2	—1·6	—1·9	—1·9	—0·4
Jubbulpore ...	—1·4	+1·2	+0·4	+1·6	—1·9	+1·5	—1·0	+0·8	—0·5	—1·9	0	—1·1	—0·2
Hoshungabad ...	—0·1	0	—0·3	+0·3	—1·2	+2·7	—0·4	0	—0·9	—1·8	+0·4	—1·3	—0·2
Nagpore ...	—0·5	+0·1	—1·0	+1·0	—1·8	+0·4	0	+0·8	—0·6	—0·9	+0·4	—3·2	—0·4
Raipore ...	—0·3	+2·0	—1·5	+1·1	—3·8	+1·1	0	—0·3	—0·6	—1·3	—0·4	—1·4	—0·4
Chanda ...	—1·4	+1·4	—0·7	+0·3	—3·4	+0·5	+0·8	—0·2	—0·1	—0·9	—0·1	—0·4	—0·3

The anomalies of temperature during 1873 were not less decided than those of pressure already noticed, and, like the latter, appear to be reducible to temporary fluctuations which affect large areas simultaneously, and irregularities in geographical distribution having a certain persistence. Such an analysis is however less easy and significant than in the case of atmospheric pressure; for while on the one hand the former class of fluctuations is more localized, on the other hand the persistent irregularities are less strongly marked and more affected by temporary changes. I shall therefore notice the principal peculiarities exhibited in Table XIII under their geographical and seasonal aspects conjointly.

In January the temperature of the Gangetic delta, Eastern Bengal, and the greater part of the Bay was about 1° lower than the average of the month, the greatest deviation, 2·1°, being on the Arakan coast. The Central Provinces also were somewhat cooler than usual; while Orissa and the North-Western Provinces were decidedly warmer than the average. At Agra the excess amounted to 3·4°. On comparing this state of things with that prevailing in the last two months of 1872, it will be seen that, in November and December, an abnormally high temperature had been general, excepting in the Central Provinces and (in the latter month) in Eastern Bengal. The change in January consisted therefore of a general and unusual fall of temperature in Bengal Proper (especially at Darjeeling), in Eastern Bengal, and on the Arakan coast; while in Orissa and the Central Provinces south of the Satpuras it remained stationary. On the Gangetic plain to the north west, the temperature fell considerably, but beyond Allahabad not to a greater extent than usual at this time of year.

The excessive temperature of Orissa and the Upper Provinces was maintained till the end of April, while in the Bay of Bengal it was below the average; and in Bengal Proper, after a rise in February, it declined below the average in March, and in April was about of the usual intensity. At Hazareebagh the changes took place as in Orissa and the North-Western Provinces. In Central India south of the Satpuras, the temperature was below the average in March (as in Bengal), but in the subsequent months it varied as in Orissa and the Upper Provinces.

In May the heat became excessive in Lower Bengal. At Calcutta 106° was registered on the 21st of the month, a temperature which has been reached but once before during the last nineteen years. At Jessore on the same day the maximum was 109·9°, at Berhampore on the two succeeding days 112·5°; readings which, athough common enough in the more continental climate of the Upper Provinces, are extremely rare in the damper province of Bengal. While this excessive heat prevailed in the deltaic province, in Central India, Chota Nagpore, and Bundelkund, as well as in the upper part of the Gangetic plain, the temperature was below the average, and in general but little higher than in the preceding month.

In June, owing to the comparative failure of the monsoon rains, the heat, instead of moderating as in ordinary years, remained as intense as in May, and in some cases exceeded it. The sole exceptions, besides Ceylon and Port Blair, are exhibited by Goalpara and Silchar; and the most excessive temperatures are those of Allahabad (6°8. above the average of the month), Benares (5·8°), and Lucknow (5°3). At Cuttack the excess amounted to 3°, and at Calcutta to 3°5., The rain that fell in July reduced the temperature to a point not greatly exceeding the average of this month, and in Orissa, Central India, and Rajputana somewhat below it.. In Eastern Bengal it was rather higher than usual, and in the upper part of the North-Western Provinces (the region of the unusual barometric depression described at page 21 (Goruckpore, Allahabad, and Lucknow), it remained excessive up to the end of the monsoon, and indeed at the first-named station up to the end of the year. The same was the case at Patna, and probably at Gya in Behar. In Central India and Rajputana the temperature was in general below the average, from September onwards; especially in the month of October. But in Bengal, while the heat in September was above the average, in October it

was below it, with the exceptions of Calcutta and Goalpara. In November in the same region it was slightly warmer than usual, and still more so in December, but at Goalpara the change was in the reverse direction. In the following month (January 1874), the cold became excessive in Northern India and, indeed, such as is unexampled in the oldest records.

TEMPERATURE OF RADIATION.

Tables of the diurnal maximum temperature of solar radiation are given for twenty-one stations. Of these, fifteen are complete, the remainder being deficient in the registers of one or more months. Except at Vizagapatam, the observations have been made with maximum self-registering thermometers on Negretti and Zambra's patented principle, with blackened bulbs enclosed in a vacuum tube. The instrument in use at Vizagapatam is unprotected. The thermometers are supported on forked sticks, over grass, one foot above the ground.

Table XV gives the mean maximum temperature of solar radiation, observed with protected instruments at fourteen additional stations in the North-West and Central Provinces.

In Table XVI, I give the average maximum temperatures of solar radiation for eight stations at which these observations had been commenced before the end of 1868. These values can be considered only as approximations to the real averages, but as such they will serve for comparison with the means of 1873. I omit Calcutta, since there is an apparent discrepancy in the earlier as compared with the later registers, amounting to an average difference of about 10 degrees; which leads me to infer that, up to September 1870, some constant cause must have affected the instrument, making it read too low.

In Table XVII the tabulated mean readings of a Rutherford's minimum thermometer, placed on forked sticks immediately over the grass, and allowed to radiate its heat freely during the night-time, are given for eighteen stations, of which however ten only are complete for the whole year.

TABLE XIV.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.

	PORT BLAIR.					VIZAGAPATAM.*				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	151·1	7th	161·0	28th	145·0	113·9	18th	118·0	16th	110·0
February	146·1	11th	155·0	2nd	101·0	...	...	...	...	...
March	154·8	12th	162·0	29th	147·0	108·8	10th	114·0	29th	103·5
April	151·3	27th	159·0	26th	123·0	111·5	5th	117·5	3rd	100·0
May	147·6	12th	164·0	31st	89·0	111·6	18th & 19th	117·0	29th	106·0
June	124·9	6th	160·0	3rd	86·0	112·9	28th	123·0	13th	99·0
July	131·8	25th	148·0	5th	102·0	115·0	21st	119·0	12th	93·0
August	141·4	10th	167·0	25th & 26th	101·0	110·5	25th	118·0	3rd & 4th	96·0
September	136·6	30th	159·0	2nd	90·0	116·5	12th	132·0	13th	102·0
October	144·0	4th	159·0	30th	116·0	113·1	6th	127·5	15th	93·0
November	146·9	3rd	159·0	27th	100·0	111·1	13th	114·0	3rd	99·0
December	144·1	11th	160·0	3rd	80·0	108·3	2nd	120·0	8th	100·0

* This instrument not in vacuo.

	NANCOWRY.					AKYAB.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	...	...	...	...	...	132·6	30th	140·0	17th	118·0
February	...	...	...	...	...	141·2	16th	145·0	19th & 20th	137·0
March	...	...	...	...	...	145·9	29th	150·0	4th	140·0
April	...	...	...	...	...	148·4	28th	176·0	21st	123·0
May	157·4	14th	196·0	28th	120·0	148·5	26th	163·0	31st	100·0
June	148·5	19th	163·0	28th	104·0	129·2	9th	155·0	1st	84·5
July	150·4	7th	186·0	8th	110·0	127·8	14th	149·0	30th	91·5
August	155·7	10th	177·0	1st	111·0	137·5	10th	158·0	8th	95·0
September	151·5	22nd	165·0	28th & 29th	75·0	138·9	8th	156·0	5th	87·0
October	143·6	7th	165·0	11th	75·0	142·5	3rd	157·0	13th	92·0
November	155·4	1st & 2nd	175·0	22nd	126·0	139·1	3rd	153·0	24th	134·0
December	162·4	14th	198·0	2nd	143·0	135·0	5th	151·0	31st	106·0

TABLE XIV.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Contd.*)

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	140·2	27th	146·0	12th	134·2	135·8	27th	141·9	3rd	130·0
February	144·3	23rd	151·7	4th	128·4	139·6	24th	148·7	4th	120·8
March	149·0	25th	156·9	5th	140·2	142·6	18th	147·2	14th	133·9
April	151·0	28th	160·0	7th	127·2	145·7	19th	154·8	7th	113·0
May	157·3	15th	164·0	26th	130·5	147·1	28th	161·0	29th	135·4
June	152·7	24th	179·0	19th	115·0	143·8	21st	158·1	16th	100·5
July	137·5	2nd	159·0	5th	106·8	136·2	4th	154·8	6th	100·0
August	147·3	17th	159·0	13th	118·6	137·8	23rd	158·0	13th	95·4
September	145·9	24th	157·8	12th	103·4	143·1	28th	156·8	6th	97·0
October	144·9	21st	157·9	11th	91·2	138·1	28th	154·0	11th	87·0
November	135·8	9th	152·2	27th	93·7	131·5	4th	146·0	28th	87·0
December	134·4	11th	145·2	3rd	109·4	129·4	12th	149·0	3rd	97·0

	CHITTAGONG.					CALCUTTA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	132·1	31st	138·5	12th	122·5	128·8	7th	139·0	12th	122·0
February	138·4	13th	143·2	5th	132·0	138·4	26th	145·0	4th	125·0
March	142·4	16th	150·4	8th	128·3	140·8	22nd	145·0	9th	136·5
April	140·5	16th	153·6	7th	101·2	138·3	12th	151·5	20th	113·8
May	144·8	26th	170·0	1st	107·7	142·2	19th	151·2	27th	106·0
June	140·3	23rd	155·7	1st	103·4	141·4	10th	147·0	15th	121·0
July	140·1	22nd	154·0	31st	100·3	134·9	9th	147·0	31st	95·2
August	141·0	24th	160·2	6th	97·0	139·9	17th	149·0	9th	125·5
September	149·3	11th	159·0	30th	110·0	137·3	16th	147·0	15th	112·0
October	140·6	9th	155·0	13th	112·8	138·5	21st	145·0	29th	129·0
November	136·3	3rd	152·4	30th	74·8	129·8	4th	141·0	30th	93·0
December	130·0	21st	141·0	1st	95·3	128·3	28th	136·0	3rd	102·0

TABLE XIV.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Contd.*)

	BURDWAN.					JESSORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	.....	.....	.....	...	...	130·9	26th	136·7	12th	125·0
February	.....	.....	.....	...	...	139·9	23rd	148·0	4th	133·2
March	.....	.....	.....	...	...	144·9	24th	151·3	7th	134·0
April	.....	.....	.....	...	...	145·6	13th	155·4	19th	115·8
May	.....	.....	.....	...	...	150·6	13th	159·9	4th	139·2
June	.....	.....	.....	...	...	148·7	12th	160·0	16th	99·0
July	.....	.....	.....	...	...	145·8	6th	159·1	28th	103·9
August	.....	.....	.....	...	...	143·3	24th	160·0	10th	99·2
September	.....	.....	.....	...	...	148·6	9th	156·9	6th	115·4
October	152·3	3rd & 4th	160·0	25th	148·0	144·8	4th	157·8	26th	139·5
November	144·5	5th	154·0	29th	108·0	130·6	3rd	153·0	29th	81·0
December	132·3	10th	145·0	11th	118·0	130·8	2nd	142·1	11th	99·2

	DACCA.					SILCHAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	128·9	19th	136·3	12th	117·3	119·1	29th	135·0	16th	90·0
February	135·6	28th	145·6	6th	129·2	127·8	21st	137·0	2nd	105·0
March	144·8	14th	150·0	8th	132·2	127·5	29th	137 0	22nd	105·0
April	144·7	18th	154·7	19th	124·0	127·9	5th	140·0	21st	84·0
May	150·6	24th	158·0	1st	132·7	135·6	24th	148·0	3rd	99·0
June	145·3	22nd	160·2	15th	101·8	132·0	29th	149·0	18th	99·0
July	146·0	1st	156·8	28th	101·0	139·7	11th	155·0	30th	108·0
August	137·5	22nd	161·0	10th	90·3	138·7	23rd	158·0	15th	100·0
September	150·4	9th	158·0	16th	128·0	139·3	10th	158·0	21st	115·0
October	141·4	2nd	154·0	26th	117·6	131·1	10th	147·0	15th	94·0
November	135·2	26th	149·0	29th	92·0	123·6	5th	136·0	30th	81·0
December	130·4	4th	143·8	3rd	102·0	119·1	19th	127·0	3rd	91·0

TABLE XIV.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Contd.*)

	HAZAREEBAGH.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	132·3	7th	145·5	10th	122·0	133·9	7th	149·0	11th	127·0
February	139·9	19th	151·9	2nd	130·0	140·8	27th	150·0	4th	127·0
March	144·8	5th	155·9	6th	114·0	131·6	5th	148·5	14th	90·0
April	157·4	6th	169·0	21st	144·5	149·4	15th	159·0	19th	134·0
May	158·7	23rd	167·0	6th	147·5	158·3	13th	168·0	4th	101·0
June	156·7	29th	169·5	16th	142·0	156·5	3rd	165·0	15th	148·0
July	139·9	5th	156·0	29th	88·0	141·1	6th	165·0	29th	87·0
August	143·3	24th	156·0	10th	105·0	144·2	22nd	157·0	9th	95·0
September	145·9	11th	155·0	13th	119·0	146·9	14th	155·0	6th	133·0
October	142·8	3rd & 4th	157·0	6th & 7th	136·0	142·0	2nd	152·0	25th	134·0
November	136·5	6th	149·5	30th	130·0	131·2	4th	141·0	27th	111·0
December	129·5	10th	139·5	29th	118·5	122·9	1st	134·0	28th	103·0

	GYA.					PATNA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	102·0	28th	112·0	11th & 12th	93·0	133·0	31st	143·0	10th	124·0
February	113·7	21st	117·0	3rd	106·0	...	.....	...	.....	...
March	121·5	31st	133·0	8th	105·0	...	.....	...	.....	...
April	.....	.....	.....	.....	.....	...	.....	...	.....	...
May	.....	.....	.....	.....	.....	160·8	12th	166·4	1st	151·5
June	.....	.....	.....	.....	.....	158·4	2nd	174·0	19th	147·0
July	.....	.....	.....	.....	.....	146·8	1st	165·0	18th	98·5
August	134·5	23rd	142·9	11th	91·0	144·0	23rd	157·3	11th	101·0
September	139·6	12th	145·8	13th	129·4	148·9	4th	157·8	15th	138·2
October	127·3	3rd	139·0	28th	117·9	146·3	13th	157·0	29th	143·8
November	117·1	15th	124·0	28th	102·0	139·4	4th	152·2	12th	130·0
December	97·1	1st	111·0	14th	90·8	131·3	20th	136·4	28th	124·6

TABLE XIV.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Contd.*)

	MONGHYR.					DARJEELING.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	127·1	31st	132·0	9th	115·0	101·5	31st	118·0	6th	50·0
February	137·4	24th & 25th	144·0	2nd	129·0	116·1	10th	126·0	19th	92·0
March	143·6	30th	150·0	7th & 8th	135·0	116·0	31st	126·0	10th	99·0
April	153·1	18th	165·0	29th	142·0	122·4	10th	131·0	27th	112·0
May	156·0	22nd	162·0	5th	142·0	125·5	27th	140·0	29th	118·0
June	154·0	2nd	165·0	14th	128·0	123·9	24th	142·0	11th	74·0
July	149·5	17th	159·0	22nd	112·0	122·6	16th	141·0	30th	106·0
August	148·4	25th & 26th	154·0	18th	130·0	124·0	26th	136·0	23rd	114·0
September	148·3	20th & 21st	153·0	6th	139·0	124·8	24th	135·0	6th	101·0
October	145·8	2nd	155·0	30th	139·0	124·3	5th	136·0	24th	105·0
November	138·2	5th—7th	141·0	26th	132·0	110·7	4th	124·0	10th	78·0
December	129·6	20th	133·0	30th	125·0	102·8	13th	110·0	28th	80·0

	GOALPARA.					BENARES.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	111·6	29th	122·4	18th	98·2	122·1	5th	131·0	31st	109·0
February	128·6	22nd	144·1	7th	121·0	129·4	25th	148·0	2nd	115·0
March	...	.....	...	.....	...	151·2	27th & 28th	159·0	8th	140·0
April	100·1	12th	132·2	26th	72·3	157·6	17th	168·0	30th	107·0
May	107·5	12th	142·3	23rd	86·2	161·6	31st	170·0	7th	150·0
June	95·9	28th	110·7	20th	82·0	164·4	4th	173·0	20th	151·0
July	...	.....	...	.....	...	143·0	5th	166·0	27th	94·0
August	...	.....	...	.....	...	145·2	24th	162·0	1st	95·0
September	...	.....	...	.....	...	151·6	12th	161·0	13th	119·0
October	131·4	18th	143·1	17th	118·7	144·6	1st	158·0	18th	89·0
November	123·4	16th	131·2	29th	110·4	137·2	2nd	148·0	4th	129·0
December	115·8	3rd	124·8	28th	91·6	100·7	2nd	132·0	22nd	82·0

TABLE XIV.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—*(Concluded.)*

	ROORKEE				
	Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖
January	127·0	30th	139·0	16th	108·7
February	132·2	23rd	144·0	19th	100·7
March	145·4	22nd	156·7	6th	121·7
April	153·0	11th	165·0	19th	148·7
May	151·0	24th	166·0	7th	98·7
June	157·9	4th	167·0	13th	148·0
July	145·4	10th	167·6	15th	96·8
August	144·4	6th	153·4	14th	114·2
September	139·2	5th	153·4	15th & 16th	78·6
October	139·8	16th	143·6	2nd	130·4
November	131·5	4th	139·0	17th	124·0
December	120·4	1st	130·0	26th	79·0

TABLE XV.—MEAN READINGS OF A BLACK-BULB MAXIMUM THERMOMETER IN VACUO AT ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES IN 1873.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Jhansi	112·	104·	121·	150·	156·	157·	127·	132·	131·	140·	133·	125·
Allahabad	137·	145·	155·	164·	163·	161·	143·	147·	149·	155·	148·	138·
Lucknow	123·	130·	135·	155·	156·	160·	144·	143·	139·	140·	131·	122·
Agra	134·	137·	153·	165·	161·	164·	149·	142·	142·	151·	142·	135·
Ajmere	122·	132·	145·	155·	157·	158·	141·	147·	146·	151·	137·	127·
Bareilly	116·	123·	141·	149·	153·	161·	150·	146·	147·	141·	134·	126·
Meerut	124·	130·	142·	153·	152·	157·	145·	143·	135·	136·	130·	120·
Hoshungabad	111·6	119·3	127·2	141·7	144·2	139·4	118·1	121·3	113·0	124·0	115·8	110·9
Goruckpore	129·	139·	144·	155·	157·	155·	150·	149·	153·	153·	146·	134·
Chanda	141·6	150·9	158·6	166·3	167·2	161·3	152·5	139·1	138·5	150·8	151·7	146·4
Akola	141·	149·	159·	166·4	170·	155·5	143·	142·	140·3	155·3	150·4	...
Omraoti	142·5	146·	155·	165·9	165·5	155·9	144·	145·9	147·6	148·3	145·7	...
Seoni...	135·1	120·6	145·1	153·4	154·4	151·9	124·7	132·2	138·	140·3	137·7	130·9
Nagpore	129·6	135·8	147·4	154·5	157·6	149·6	128·1	137·4	128·5	141·0	136·2	131·0

TABLE XVI.—AVERAGE MONTHLY TEMPERATURES OF SOLAR RADIATION, DEDUCED FROM THE REGISTERS OF 1868—1873.

	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair	4·6	149·8	149·3	156·6	157·4	146·8	137·4	138·9	142·8	144·0	148·2	148·4	149·2	147·4
Jessore	4·6	132·0	136·9	144·5	147·0	148·5	141·2	142·2	143·7	145·0	144·7	138·0	132·7	141·4
Hazareebagh	5·6	131·0	136·1	143·0	154·8	158·9	151·5	144·1	146·3	147·4	141·3	136·5	129·6	143·4
Berhampore	4·6	128·0	136·4	141·1	150·5	152·6	141·6	142·0	145·8	144·4	142·8	136·3	127·3	140·7
Patna	4·6	122·9	131·6	143·0	150·4	154·0	150·2	143·7	142·9	142·4	140·7	134·1	125·3	140·1
Monghyr	4·6	126·9	135·3	145·8	153·4	155·7	151·8	147·7	146·3	146·3	142·9	136·0	128·0	143·0
Roorkee	5·6	114·4	121·5	133·2	143·6	149·3	148·0	138·8	137·1	136·5	136·1	127·5	117·3	133·6
Lucknow	5·6	116·8	127·2	139·0	151·4	156·0	151·6	141·2	143·0	138·5	135·8	129·1	120·4	137·5

TABLE XVII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.

	AKYAB.					CUTTACK.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	46·8	21st	56·2	12th	40·0	50·9	26th	63·2	12th	37·3
February	48·1	25th	58·2	13th	40·1	55·4	12th	66·7	5th	47·0
March	58·9	19th	83·3	11th	48·1	66·8	28th	70·5	1st	59·3
April	66·9	13th	75·3	1st	55·1	73·6	24th	77·2	21st	65·6
May	71·4	29th—31st	75·3	7th	67·2	74·6	25th	80·2	6th	68·0
June	76·0	28th	78·3	25th	72·3	77·2	12th	80·1	13th	72·1
July	75·5	25th	77·3	29th	73·3	75·6	12th	77·9	5th	73·2
August	75·5	31st	77·3	13th & 14th	72·3	74·9	28th	79·0	13th	71·7
September	75·1	23rd	79·3	27th	71·3	74·3	5th	77·2	22nd	71·6
October	72·8	4th	75·3	28th	68·2	68·5	3rd	74·0	31st	52·5
November	65·1	1st	73·3	15th	58·7	57·0	4th	66·3	20th	48·4
December	56·6	4th	69·2	31st	43·1	51·7	11th	66·3	30th	41·2

	NANCOWRY.					SAUGOR ISLAND.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	...	.....	...	.....	...	54·4	19th	68·0	12th	43·2
February	...	.....	...	.....	...	58·1	26th	75·0	5th	44·6
March	...	.....	...	.....	...	70·8	27th	77·4	9th	58·0
April	...	.....	...	.....	...	77·3	26th	81·0	21st	64·6
May	...	.....	...	.....	...	79·0	14th	86·0	6th	68·7
June	...	.....	...	.....	...	81·3	27th	85·9	23rd	73·9
July	...	.....	...	.....	...	78·4	26th	82·0	19th	75·0
August	...	.....	...	.....	...	77·0	18th	81·4	5th	71·0
September	72·6	9th & 10th	79·0	30th	60·0	78·1	24th	80·9	30th	75·0
October	59·9	1st	70·0	28th	58·0	70·2	4th	76·3	20th	58·0
November	61·8	17th	65·0	11th—14th	60·0	61·4	6th	72·0	19th	55·0
December	60·6	12th	63·8	22nd—24th	58·8	57·2	3rd	68·2	31st	44·4

TABLE XVII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Continued.*)

	CHITTAGONG.					BURDWAN.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	52·6	18th	64·9	12th	44·2					
February	56·8	23rd	65·9	13th	47·2					
March	64·2	25th	72·6	2nd	55·3					
April	71·6	17th	77·6	30th	64·3					
May	71·6	23rd	78·0	4th	65·2					
June	76·0	24th	79·4	19th	66·7					
July	75·7	21st	77·4	13th	71·9					
August	75·2	21st	78·7	12th	70·9					
September	75·2	12th	77·0	11th	72·3					
October	71·9	4th	75·5	24th	66·7	60·0	21st	67·7	4th	43·8
November	63·7	3rd	75·1	12th	55·7	59·5	4th & 5th	71·6	11th	50·7
December	57·9	3rd	69·8	27th	49·7	51·7	11th	62·7	30th	44·3

	JESSORE.					DACCA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	43·7	8th	57·8	12th	33·9	47·2	22nd	77·3	10th	34·4
February	48·6	27th	66·0	14th	38·0					
March	60·9	27th	72·0	1st	42·8	63·4	24th	73·5	1st	48·2
April	70·5	13th	76·0	22nd	62·7	70·3	13th	76·3	29th	62·8
May	72·1	23rd	78·2	6th	65·4	71·7	14th	80·6	4th	63·9
June	76·6	3rd	81·1	4th	71·1	74·1	29th	77·4	3rd	68·8
July	77·3	14th	79·0	30th	74·6	76·3	12th	79·1	2nd	72·3
August	76·2	28th	78·2	10th	72·2	76·6	26th	79·7	11th	74·4
September	75·8	12th	78·0	30th	73·2	76·8	11th	79·4	18th	73·3
October	66·2	2nd	73·3	31st	54·5	67·4	3rd	75·4	29th	60·6
November	54·5	4th	68·5	21st	44·0	58·9	4th	71·0	11th	51·7
December	47·1	3rd	65·0	26th	39·0	51·5	3rd	67·4	27th	43·7

TABLE XVII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Continued.*)

	SILCHAR.					HAZAREEBAGH.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	48·1	20th	55·0	10th	43·0	40·1	7th	54·0	12th	30·0
February	53·4	26th & 27th	65·0	13th	45·0	44·4	23rd	53·0	15th	35·0
March	59·8	31st	70·0	10th & 11th	50·0	52·5	22nd	62·0	2nd	40·0
April	67·1	16th	74·0	27th & 28th	62·2	...	...	...	...	...
May	69·2	30th & 31st	75·0	9th	64·0	68·6	31st	76·0	6th	61·5
June	75·6	19th	79·0	26th	72·0	74·4	6th	80·5	26th	68·5
July	76·5	17th	79·0	31st	74·0	72·6	22nd	75·0	30th	70·5
August	75·7	25th & 26th	79·0	7th	74·0	71·9	31st	74·0	18th	68·5
September	74·2	12th	78·0	28th	70·0	69·5	4th—6th	73·0	27th	65·0
October	68·9	4th	74·0	25th	60·0	53·9	2nd	69·0	31st	45·0
November	58·4	4th	70·0	19th	51·0	42·3	4th	59·0	23rd	36·0
December	50·5	4th	65·0	28th	44·0	35·2	11th	49·0	17th	29·0

	BERHAMPORE.					GYA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	47·4	8th	57·0	10th & 11th	38·0	45·2	8th	56·0	13th	38·0
February	50·5	27th	60·5	14th	42·5	51·0	22nd	62·5	3rd	40·0
March	59·6	30th	70·5	2nd	46·5	58·1	30th & 31st	66·0	2nd	49·0
April	69·5	23rd	76·0	8th	64·0	...	...	...	...	...
May	73·1	23rd	80·0	24th	64·5	...	...	...	...	...
June	78·4	3rd	84·0	16th	73·0	...	...	...	...	...
July	77·5	10th	80·0	1st	73·0	...	...	...	...	...
August	76·8	28th	79·0	9th	72·5	68·9	25th	71·2	12th	65·0
September	75·7	1st	79·5	30th	71·0	68·2	1st	70·6	28th	58·9
October	62·7	3rd	74·0	28th	50·0	53·8	4th	67·8	21st	45·2
November	50·3	4th	66·0	12th	42·0	44·8	4th	55·0	11th	41·0
December	39·7	28th	48·0	30th & 31st	32·0	38·2	11th	46·2	16th	34·1

TABLE XVII.—MAXIMUM, MINIMUM, AND MEAN READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Continued.*)

	PATNA.					MONGHYR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	43·9	8th	54·0	14th & 15th	37·0	43·7	8th	54·2	12th & 13th	36·1
February	...	.....	...	.....	...	51·8	27th	61·2	9th	42·1
March	...	.....	...	.....	...	61·6	30th	69·2	2nd	50·2
April	...	.....	...	.....	...	69·1	19th	74·2	29th	64·2
May	...	.....	...	.....	...	74·8	26th	83·2	5th	65·2
June	...	.....	...	.....	...	79·3	29th	85·2	12th	73·2
July	77·0	6th	80·3	18th	72·7	...	.....	...	.....	...
August	74·8	5th	78·0	11th	71·4	75·6	16th & 17th	79·2	12th & 13th	72·2
September	72·7	4th	75·9	30th	67·3	76·2	20th	79·2	29th	72·2
October	56·2	1st	67·3	21st	50·0	63·5	1st	74·2	31st	57·1
November	47·4	5th	59·5	29th	39·0	55·3	5th	69·1	26th	49·1
December	40·5	22nd	49·3	9th	36·0	48·7	20th	52·1	31st	43·5

	DARJEELING.					GOALPARA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day	⊖	Day.	⊖
January	29·2	28th & 29th	33·0	13th	23·0	49·2	8th	55·6	10th—12th	41·3
February	34·8	21st	44·0	3rd	29·0	56·0	25th	62·5	3rd	48·6
March	37·9	30th	45·9	9th	26·0	58·3	23rd	65·5	2nd	49·4
April	45·1	14th	50·9	21st	39·9	64·8	13th	70·5	3rd	55·4
May	48·4	26th & 27th	55·8	7th—9th	43·9	68·2	26th	75·0	6th	62·0
June	54·8	16th—19th	56·8	12th	49·9	74·1	29th	78·5	3rd	68·6
July	56·7	15th	58·8	24th	54·8	76·5	17th	78·3	31st	74·9
August	55·3	16th	58·8	23rd	52·8	76·1	27th	79·4	19th	74·2
September	53·6	1st & 2nd	56·8	28th	48·9	75·1	15th	78·9	30th	72·4
October	42·0	3rd	48·8	31st	37·8	67·3	2nd	73·7	29th	61·3
November	35·4	8th	41·8	29th	31·8	57·8	5th	65·5	26th	50·6
December	30·8	10th	36·8	29th	21·8	52·5	9th	56·2	31st	46·6

TABLE XVII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Concluded.*)

	BENARES.					ROORKEE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	...	.....	...	.....	...	37·8	5th	52·0	11th	28·5
February	...	.....	...	.....	...	43·5	20th	57·0	12th	36·0
March	56·3	26th	64·0	2nd	41·0	50·8	21st	60·0	1st	37·5
April	63·7	29th and 30th	76·0	6th	56·0	58·1	28th	79·0	7th	48·0
May	...	.....	...	.....	...	66·9	26th	82·0	15th	58·5
June	...	.....	...	.....	...	76·2	30th	86·0	7th	68·0
July	...	.....	...	.....	...	77·6	1st	85·0	7th	73·0
August	...	.....	...	.....	...	75·3	8th	77·8	9th	71·4
September	...	.....	...	.....	...	69·8	2nd	76·8	29th	62·2
October	...	.....	...	.....	...	51·3	2nd	63·4	31st	38·4
November	...	.....	...	.....	...	39·9	12th	48·4	29th	34·6
December	...	.....	...	.....	...	35·3	18th	47·4	12th	27·0

The records of radiation temperature are insufficient to allow of any valid comparison between the intensity of insolation in 1873 and in former years, sufficiently general to show the relation between this agent and the temperature of the air in the shade. So far as the above tables afford the means of comparing the insolation of 1873 with the average intensity, it is to the effect that at Port Blair the temperature of solar radiation was below the average almost throughout the year, and especially so in April, June, July, and September. On the other hand, that in Bengal and the North-West Provinces, it was generally above the average. At Roorkee this was the case in every month of the year; and during the first four months the excess amounted to from 11 to 14°, in June to 10°, in July to 6½°, and in August to 7°. It was least in May, when it amounted to only 1½°. At Patna and Monghyr the solar heat was excessive from May onwards, especially at the former stations. At Hazareebagh it was somewhat above the average in the first four months, in June and October, but below it in other months. At Berhampore in June it was 15° above the average, and at Jessore 7·5°. At Lucknow in January and Febuary it ranged above the average, in March 4° below it, and in all the subsequent months was either equal to or above the average; the latter more especially in April, June, and October.

VAPOUR TENSION AND RELATIVE HUMIDITY.

Table XVIII gives the monthly and annual means of vapour tension, obtained from the observations of the wet and dry bulb thermometers by the use of Guyot's Psychrometrical Tables, which are computed by August's formula with Regnault's constants. The mean of the four periods of observation is taken as the diurnal mean, in all cases in which these are complete. A comparison between the means thus obtained, and those derived from hourly observations (at Calcutta), given in Table XIV of the report for 1872, showed that there is no appreciable difference between these values.

Table XIX shows the average values of the monthly and annual vapour tension of nineteen stations deduced from the registers of the years 1868—73 by the same method; and Table XX, the differences between the corresponding means of the two previous tables for all those stations and months that have furnished the complete series of 6-hourly observations.

Tables XXI and XXII give the data of relative humidity for the year—the first for those stations that furnish original registers to the Meteorological Department of Bengal, the second for stations in Central India, the North-Western Provinces, and Ceylon; the data being taken from the printed abstracts received from the local meteorological officers. The average values of the humidity for stations selected from both the above tables are given in Table XXIII, which is divided into two parts, the one comprising the stations at which the full series of four sets of daily observations have been recorded, the other the more numerous stations at which the humidity has been observed only in the day time. One or two stations are included in both these sub-divisions.

Lastly, Table XXIV shows the differentia of 1873, as compared with the several averages of the previous table, and, like the latter, is divided into two sections.

TABLE XVIII.—MEAN ELASTIC FORCE OF VAPOUR IN 1873.

	PORT BLAIR.					NANCOWRY.		MADRAS.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	10*h*.	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	...	...	·767	·762	...	.....	.....	...	...	·615	·610	...
February	...	...	·823	·832	...	.....	.....	...	...	·721	·691	...
March	...	...	·865	·889	...	.....	.....	...	...	·689	·700	...
April	...	...	·937	·934	...	.....	.....	...	...	·804	·855	...
May	...	...	·962	·949	...	·996	·958	...	...	·784	·846	...
June	...	...	·946	·937	...	·998	·978	...	...	·646	·743	...
July	...	...	·952	·946	...	·959	·948	...	...	·637	·684	...
August	...	...	·945	·927	...	·821	·813	...	...	·736	·773	...
September	...	...	·924	·933	...	·909	·884	...	...	·716	·778	...
October	...	...	·925	·935	...	·877	·819	...	...	·804	·842	...
November	...	...	·905	·894	...	·830	·818	...	...	·738	·712	...
December	...	...	·850	·834	...	·935	·852	...	...	·721	695	...
Year ...	...	...	·900	·898	...	.....	.....	...	...	·718	·744	...

	VIZAGAPATAM.					AKYAB.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·590	·554	·604	·610	·591	·498	·465	·505	·505	·517
February	·656	·629	·658	·665	·671	·575	·516	·564	·611	·608
March	·750	·746	·722	·760	·773	·694	·626	·682	·727	·742
April	·868	·855	·852	·879	·885	.....	.....	·866	·878	·862
May	·909	·901	·890	·910	·934	·921	·884	·919	·934	·927
June	·922	·901	·913	·922	·951	.....	.....	·963	·964	·951
July	·867	·858	·871	·857	·882	.....	.....	·967	·957	·947
August	·895	·888	·893	·889	·909	.....	.....	·948	·964	·955
September	·874	·867	·869	·876	·885	·956	·937	·966	·970	·952
October	·798	·788	·801	·796	·804	·927	·904	·955	·937	·912
November	·621	·610	·608	·627	·640	·778	·751	·792	·797	·773
December	·583	·559	·586	·592	·594	·636	·594	·670	·661	·621
Year ...	·778	·763	·772	·782	·793	.....	.....	·816	·825	·814

TABLE XVIII.—MEAN ELASTIC FORCE OF VAPOUR IN 1873.—(*Continued.*)

	FALSE POINT.					CUTTACK.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·609	·536	·619	·649	·634	·506	·495	·518	·462	·549
February	·643	·607	·635	·657	·674	·523	·559	·522	·430	·581
March	·875	·825	·882	·906	·886	·674	·731	·690	·507	·768
April	1·013	·970	1·016	1·032	1·034	·839	·871	·837	·770	·880
May	1·062	1·015	1·073	1·080	1·079	·829	·911	·813	·703	·891
June	1·094	1·066	1·113	1·106	1·093	·892	·931	·883	·845	·911
July	·972	·937	·988	1·004	·960	·916	·897	·925	·922	·921
August	·994	·956	1·009	1·013	1·000	·940	·915	·958	·940	·946
September	·962	·930	·984	·969	·963	·911	·893	·919	·907	·925
October	·861	·834	·875	·872	·861	·773	·765	·781	·743	·802
November	·717	·654	·740	·742	·733	·586	·570	·601	·553	·622
December	·609	·559	·619	·633	·626	·496	·491	·487	·470	·538
Year ...	·868	·824	·879	·889	·879	·740	·752	·744	·688	·778

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	.....	.....	·542	·557	.....	·483	·427	·516	·521	·470
February	.....	.....	·581	·559	.....	·523	·482	·548	·513	·548
March...	.....	.....	·767	·769	.....	·652	·639	·646	·636	·686
April	·926	·900	·945	·933	·926	·815	·797	·796	·825	·841
May	·982	·944	1·007	·994	·982	·897	·870	·913	·910	·897
June	1·015	1·046	1·081	1·086	1·047	·942	·913	·948	·971	·938
July	1·008	·990	1·023	1·008	1·010	·926	·898	·939	·958	·910
August	.....	.....	1·006	1·004	·985	·923	·900	·940	·944	·930
September	·979	·972	·989	·980	·977	·916	·879	·929	·939	·917
October	·799	·803	·805	·780	·806	·823	·796	·826	·839	·830
November	·633	·637	·642	·617	·637	·665	·637	·690	·673	·659
December	·536	·526	·542	·529	·549	·558	·528	·594	·560	·551
Year ...	.....	.....	·827	·818	.....	·761	·730	·774	·774	·765

TABLE XVIII.—MEAN ELASTIC FORCE OF VAPOUR IN 1873.—(*Continued.*)

	CALCUTTA.					BURDWAN.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·475	·468	·478	·447	·508					
February	·526	·538	·525	·464	·576					
March	·679	·720	·688	·562	·747					
April	·884	·871	·909	·863	·894					
May	·902	·930	·929	·810	·941					
June	1·015	1·038	1·026	·988	1·007					
July	1·026	1·000	1·033	1·048	1·023					
August	1·007	·991	1·017	1·017	1·004					
September	·992	1·000	·994	·974	1·002	.....	.....	1·054	1·085	.....
October	·788	·813	·784	·733.	·823	.....	.....	·814	·796	.....
November	·601	·587	·598	·577	·641	.....	.....	·594	·642	.....
December	·498	·487	·484	·490	·531	.....	.....	·469	·553	.....
Year ...	·783	·787	·789	·748	·808	.....	.....			.....

	JESSORE.					DACCA.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·415	·393	·442	·385	·442	·450	·409	·482	·446	·462
February	·450	·451	·478	·380	·490	·488	·491	·491	·456	·516
March	·612	·646	·657	·477	·667	·645	·672	·659	·592	·657
April	·819	·825	·870	·759	·822	·836	·811	·858	·841	·835
May	.....	.....	·865	·738	.....	·910	·899	·944	·891	·906
June	.....	.....	1·053	1·013	.....	.....	.....	1·035	1·056	·998
July	.....	.....	1·030	1·017	.....	1·007	·987	1·028	1·012	1·002
August	.....	.....	·998	·984	.....	.....	.....	·997	·980	·996
September	.....	.....	·975	·953	.....	·987	·983	·996	968	1·000
October	.....	.....	·703	·697	.....	·764	·771	·764	·722	·798
November	.....	.....	·584	·593	.....	·601	·596	·631	·564	·612
December	.....	.....	·474	·473	.....	·488	·459	·527	·481	·486
Year ...	.....	.....	·761	·706	.....	.....	.....	·784	·751	·772

TABLE XVIII.—MEAN ELASTIC FORCE OF VAPOUR IN 1873.—(*Continued.*)

	SILCHAR.					HAZAREEBAGH.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·466	·367	·474	·561	·462	.....	.....	·242	·227	·251
February	·519	·460	·543	·537	·538	.....	.....	·233	·192	·218
March	·599	·572	·619	·597	·609	.....	.....	·270	·233	293
April	·748	·705	·766	·766	·754	.....	.....	·240	·175	·305
May	·836	·794	·850	·849	·852	.....	.....	·381	·331	·391
June	·944	·930	·943	·948	·954	.....	.....	·C07	·558	·655
July	·965	·938	·982	·985	·957	.....	.....	·835	·837	·849
August	·945	·912	·960	·965	·944	.....	.....	·811	·809	·825
September	.....	.....	·949	·950	·948	.....	.....	·770	·741	.....
October	·835	·776	·851	·869	·843	.....	.....	·401	·393	.....
November	·626	·562	·652	·666	·625	.....	.....	·308	·307	.....
December	·502	·440	·540	·529	·501	.....	.....	·265	·236	.....
Year ...	.....	.....	·761	·769	·749	.....	.....	·447	·420	.....

	BERHAMPORE.					GYA.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·383	·372	·396	·360	·404	·283	·289	·280	·270	·293
February	·429	·429	·439	·366	·484	·290	·281	·302	·277	·299
March	·541	·558	·589	·453	·562	.....	.....	·335	·278	·354
April	·684	·709	·750	·620	·656	.....	.....	.....	.....	.....
May	·700	·731	·714	·642	·712	.....	.....	.....	.....	.....
June	·940	·971	·999	·868	·924	.....	.....	.....	.....	.....
July	1·001	·980	1·012	1·001	1·009	.....	.....	.....	.....	.....
August	·976	·946	·995	·973	·988	.....	.....	·903	·918	.....
September	·956	·962	·959	·917	·985	.....	.....	·906	·920	.....
October	·692	·708	·709	·638	·711	.....	.....	·550	·537	.....
November	·525	·519	·544	·487	·551	.....	.....	·379	·356	.....
December	·425	·405	·429	·436	·431	.....	.....	·319	·339	.....
Year ...	·688	·691	·711	·647	·701	.....	.....	.....	.....	.....

TABLE XVIII.—MEAN ELASTIC FORCE OF VAPOUR IN 1873.—(*Continued.*)

	PATNA.					MONGHYR.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·326	·261	·352	·358	·333	·346	·332	·336	·355	·361
February	.....	.....	.....	.....	.....	·361	·362	·364	·347	·373
March	.....	.....	.....	.....	.....	·425	·419	·447	·392	·440
April	.....	.....	.....	.....	.....	·545	·582	·561	·471	·567
May	.....	.....	·498	·455	·509	·569	·610	·577	·512	·578
June	.....	.....	·826	·772	.....	·874	·886	·884	·828	·898
July	.....	.....	·947	·946	.....	·977	·966	·983	·969	·989
August	.....	.....	·985	·940	.....	·976	·955	·987	·972	·990
September	.....	.....	·907	·876	.....	·942	·942	·948	·914	·964
October	.....	.....	·500	·447	.....	·575	·577	·598	·528	·599
November	.....	.....	·366	·391	.....	·422	·409	·437	·422	·419
December	.....	.....	·376	·407	.....	·334	·318	·343	·341	·336
Year ...	.....	.....	.....	.....	.....	·612	·613	·622	·588	·626

	DARJEELING.					GOALPARA.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·188	·162	·182	·211	·197	·414	·383	·430	·422	·423
February	·235	·203	·231	·252	·255	·480	·453	·506	·496	·463
March	·238	·215	·226	·257	·254	·507	·501	·532	·488	·509
April	·343	·299	·363	·362	·347	·694	·655	·705	·729	·685
May	·402	·357	·412	·429	·410	·790	·750	·817	·826	·769
June	·518	·470	·544	·536	·520	.....	.....	·907	·946	·911
July	·560	·521	·577	·580	·564	.....	.....	·979	·978	.....
August	·528	·489	·543	·552	·529	.....	.....	·970	·953	.....
September	·508	·462	·530	·537	·503	.....	.....	·941	·923	.....
October	·288	·248	·275	·322	·309	.....	.....	·750	·717	.....
November	·203	·177	·183	·235	·218	.....	.....	·559	·531	.....
December	·197	·172	·192	·208	·215	.....	.....	·478	·481	.....
Year ...	·351	·315	·355	·373	·360	.....	.....	·714	·708	.....

TABLE XVIII.—MEAN ELASTIC FORCE OF VAPOUR IN 1873.—(*Concluded.*)

	BENARES.					ROORKEE.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January ...	·316	·293	·318	·314	·338	·272	·259	·293	·245	·289
February ...	·385	·331	·370	·473	·366	·303	·316	·332	·244	·322
March ...	·393	·379	·397	·393	·404	·307	·336	·310	·240	·340
April ...	·486	·455	·512	·507	·468	·255	·284	·267	·183	·284
May ...	·498	·535	·486	·432	·539	·457	·481	·460	·400	·489
June ...	·666	·709	·670	·589	·697	·526	·625	·590	·408	·479
July ...	·960	·949	·958	·960	·972	·898	·897	·892	·864	·939
August ...	·952	·946	·962	·947	·955	·891	·875	·889	·888	·914
September ...	·873	·868	·878	·846	·902	·810	·791	·830	·791	·826
October ...	·499	·482	·516	·463	·535	·478	·484	·481	·441	·506
November ...	·447	·367	·463	·519	·441	·328	·312	·350	·313	·339
December ...	·358	·290	·386	·382	·373	·323	·292	·341	·330	·330
Year ...	·569	·550	·576	·569	·582	·487	·496	·503	·446	·505

TABLE XIX.—AVERAGE MONTHLY VALUES OF THE TENSION OF AQUEOUS VAPOUR, FROM THE OBSERVATIONS OF THE YEARS 1868—73.

Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.
Vizagapatam	4	·608	·655	·737	·850	·920	·903	·863	·899	·893	·825	·676	·586	·785
Akyab	4—6	·566	·615	·743	·879	·952	·961	·938	·943	·967	·914	·780	·615	·823
False Point	6	·621	·710	·875	1·015	1·096	1·076	1·023	1·028	1·006	·919	·678	·584	·886
Cuttack	5—6	·509	·560	·670	·815	·906	·940	·953	·958	·949	·824	·591	·498	·764
Saugor Island	5—6	·561	·677	·851	·959	1·024	1·060	1·039	1·034	1·011	·896	·665	·542	·860
Chittagong	5—6	·494	·567	·728	·868	·938	·966	·942	·952	·943	·871	·676	·524	·789
Calcutta	6	·473	·545	·691	·853	·934	1·000	1·008	1·010	·992	·860	·629	·488	·790
Jessore	4—5	·423	·470	·612	·772	·903	·975	·985	·989	·968	·875	·609	·454	·753
Dacca	5—6	·475	·527	·697	·834	·949	1·019	1·013	1·033	1·011	·876	·636	·501	·798
Silchar	3—5	·470	·511	·615	·736	·874	·949	·957	·957	·946	·868	·653	·507	·754
Hazareebagh	3—4	·297	·277	·300	·406	·525	·747	·825	·815	·797	·578	·359	·292	·518
Berhampore	5	·410	·428	·502	·744	·843	·974	·991	·988	·962	·804	·581	·443	·722
Gya	2—3	·331	·298	·283	·417	·614	·828	·924	·947	·906	657	·406	·336	·579
Patna	4—5	·351	·375	·425	·533	·721	·889	·974	972	·933	·741	·473	·369	·646
Monghyr	4—5	·364	·391	·403	·524	·671	·913	·977	·985	·952	·730	·487	·372	·647
Darjeeling	6	·206	·224	·252	·334	·423	·525	·543	·545	·506	·365	·264	·210	·366
Goalpara	4—5	·432	·453	·501	·650	·785	·903	·926	·931	·901	·794	·608	·473	·696
Benares	4	·338	·376	·363	·441	·537	·807	·977	·961	·919	·624	·449	·358	·596
Roorkee	6	·288	·331	·349	·348	·444	·682	·893	·896	·818	·518	·332	·297	·516

TABLE XX.—COMPARISON OF MONTHLY MEAN VAPOUR TENSIONS OF 1873 WITH THE AVERAGES OF TABLE XIX.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam ...	+018	+001	+017	+018	—011	+019	+004	—004	—019	—027	—055	—003	—004
Akyab	—063	—040	—049	—031	—031	—005	+014	+008	—011	+013	—002	+021	—013
False Point... ...	—012	—067	0	—002	—034	+018	—051	—034	—014	—058	+039	+025	—018
Cuttack	—003	—037	+004	+024	—077	—048	—037	—018	—038	—051	—005	—002	—024
Saugor Island ...	—016	—075	—078	—033	—042	—045	—031	—042	—032	—097	—032	—006	—044
Chittagong	—011	—044	—076	—053	—041	—024	—016	—029	—027	—048	—011	+034	—029
Calcutta	+002	—019	—012	+031	—032	+010	+018	—003	0	—072	—028	+010	—008
Jessore	—008	—020	0	+057	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dacca	—025	—039	—052	+002	—039	+004	—006	—038	—024	—012	—035	—013	—023
Silchar	—004	+008	—016	+012	—038	—005	+008	—012	—013	—033	—027	—005	—010
Berhampore ...	—017	+001	+039	—060	—143	—034	+010	—012	—006	—112	—056	—018	—034
Monghyr	—018	—030	—028	+021	—102	—039	0	—009	—010	—155	—065	—038	—039
Goalpara	—018	+027	+006	+044	+005	—002	.....	.....	.....	.....	.....	.....	.....
Benares	—022	+009	+030	+045	—039	—141	—017	—009	—046	—125	—002	0	—026
Roorkee	—016	—028	—042	—093	+013	—156	+005	—005	—008	—040	—004	+026	—029

TABLE XXI.—MEAN HUMIDITY OF 1873.

	PORT BLAIR.			NANCOWRY.		MADRAS.		
	Mean. 2 *obs.*	10*h.*	16*h.*	10*h.*	16*h.*	Mean. 2 *obs.*	10*h.*	16*h.*
January	67	69	64	.....	.....	59	60	57
February	69	72	66	.....	.....	66	68	64
March	71	72	70	.....	.....	58	57	59
April	69	72	66	.....	.....	63	59	66
May	73	74	71	80	82	59	54	63
June	81	82	80	86	84	46	42	50
July	80	81	79	80	82	46	46	46
August	77	78	75	72	74	58	56	59
September	81	81	81	82	83	58	56	59
October	80	80	79	72	75	75	74	76
November	74	76	72	72	75	70	71	68
December	71	73	68	82	82	69	70	67
Year ...	74	76	73	.....	.....	60	59	61

	VIZAGAPATAM.					AKYAB.				
	Mean.	4*h.*	10*h.*	16*h.*	22*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*
January	66	67	67	61	67	72	90	60	55	85
February	65	68	64	61	67	74	92	60	57	87
March	66	71	61	63	69	74	92	58	62	86
April	69	72	65	66	72	74	...	68	68	84
May	68	71	63	65	71	78	88	69	70	84
June	65	68	64	62	68	89	...	89	87	90
July	74	77	75	70	75	92	...	91	90	93
August	74	76	73	71	76	89	...	86	86	93
September	73	76	71	69	74	89	95	86	84	92
October	75	78	74	72	77	88	96	85	79	92
November	65	69	63	62	67	83	95	75	70	91
December	67	69	66	63	68	80	92	73	65	89
Year ...	69	72	67	65	71	82	...	75	73	89

TABLE XXI.—MEAN HUMIDITY OF 1873.—(*Continued.*)

	FALSE POINT.					CUTTACK.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	80	88	77	72	84	67	87	59	40	80
February	76	86	70	65	81	60	87	49	31	73
March	84	90	80	80	86	65	88	58	34	80
April	89	91	86	86	91	68	85	61	46	79
May	87	91	86	84	89	64	87	53	42	75
June	85	88	83	82	86	66	82	58	51	73
July	86	88	86	84	85	82	89	77	76	87
August	85	88	85	82	87	84	91	78	76	89
September	82	85	82	77	83	81	90	74	71	88
October	81	87	80	76	81	76	88	67	63	85
November	84	93	80	78	87	70	86	61	51	82
December	81	88	79	73	83	67	85	56	45	81
Year ...	83	89	81	78	85	71	87	63	52	81

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	70	.....	66	57	.....	73	90	69	58	75
February	62	.....	60	51	.....	65	85	59	46	71
March	73	.....	68	66	.....	68	86	60	52	75
April	80	85	74	75	85	77	89	67	67	84
May	79	84	73	73	85	79	92	70	69	86
June	79	84	73	74	84	84	91	79	78	88
July	85	89	82	81	88	87	93	82	82	89
August	86	.....	83	80	89	88	94	83	83	93
September	83	89	79	77	86	85	93	79	77	91
October	78	91	69	65	86	83	94	77	73	88
November	74	86	68	58	83	77	92	71	64	82
December	72	85	66	56	82	78	95	77	61	81
Year ...	77	.....	72	68	.....	79	91	73	67	84

TABLE XXI.—MEAN HUMIDITY OF 1873.—(*Continued.*)

	CALCUTTA.					BURDWAN.		JESSORE.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	10*h*.	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	69	83	65	48	78	.....	.....	70	93	58	43	87
February	63	82	57	38	75	.....	.....	60	87	49	30	75
March	67	87	63	40	79	.....	.....	64	89	58	33	76
April	75	88	71	58	84	.....	.....	74	91	69	52	83
May	72	89	66	52	83	.....	.....	55	...	61	49	...
June	77	91	72	62	84	.....	.....	72	...	74	69	...
July	89	94	86	84	93	.....	.....	83	...	83	83	...
August	88	94	85	81	92	.....	.....	82	...	82	81	...
September	85	94	79	77	90	87	85	74	...	74	74	...
October	73	87	66	56	81	71	62	56	...	57	55	...
November	68	80	61	52	78	61	57	53	...	53	53	..
December	68	81	62	53	78	60	56	54	...	56	51	...
Year ...	74	87	69	59	83	.....	.....	...	...	64	56	...

(2 obs.)

	DACCA.					SILCHAR.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	71	88	63	50	83	81	89	80	66	87
February	61	85	50	38	72	76	92	77	51	84
March	67	88	59	46	76	76	91	75	56	82
April	78	92	71	62	86	80	93	77	66	85
May	80	94	73	67	86	78	93	74	60	85
June	86	...	81	79	91	88	95	85	80	91
July	88	95	84	82	92	86	95	83	75	91
August	88	...	85	82	93	87	95	83	78	92
September	85	94	79	74	92	85	...	85	74	91
October	75	90	65	59	86	85	94	84	72	90
November	70	88	60	53	80	79	91	73	62	89
December	70	87	63	51	79	79	92	77	59	89
Year ...	77	...	69	62	85	82	...	79	67	88

TABLE XXI.—MEAN HUMIDITY OF 1873.—(*Continued.*)

	HAZAREEBAGH.					BERHAMPORE.				
	Mean. 2 *obs.*	4*h.*	10*h.*	16*h.*	22*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*
January ...	33	.....	37	28	51	67	90	53	40	84
February ...	24	.....	29	19	35	61	86	49	31	79
March ...	27	.....	32	22	41	61	85	56	34	69
April ...	15	.....	19	11	29	61	86	57	37	64
May ...	24	.....	27	21	37	55	74	48	37	62
June ...	38	.....	40	36	56	72	89	68	54	78
July ...	81	.....	84	78	90	86	95	80	77	92
August ...	78	.....	78	78	90	86	95	81	78	92
September ...	71	.....	73	69	.....	82	94	76	68	90
October ...	39	.....	40	37	.....	68	88	58	48	77
November ...	35	.....	36	33	.....	65	85	57	43	76
December ...	36	.....	41	31	.....	66	87	57	45	77
Year ...	42	.....	45	39	.....	69	88	62	49	79

	GYA.					PATNA.				
	Mean.	4*h.*	10*h.*	16*h.*	22*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*
January ...	49	66	41	31	53	59	67	53	46	69
February ...	38	51	33	24	43	.....	.....	.....	.....	.....
March ...	.....	.....	31	21	41	.....	.....	.....	.....	.....
April ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May ...	.....	.....	.....	.....	.....	2 *obs.* 26	.....	29	23	38
June ...	.....	.....	.....	.....	.....	49	.....	55	42	.....
July ...	.....	.....	.....	.....	.....	72	.....	74	70	.....
August ...	2 *obs.* 74	.....	76	72	.....	77	.....	79	74	.....
September ...	71	.....	71	70	.....	65	.....	68	62	.....
October ...	43	.....	46	40	.....	37	.....	40	33	.....
November ...	36	.....	41	31	.....	41	.....	44	37	.....
December ...	42	.....	46	38	.....	54	.....	56	51	.....

TABLE XXI.—MEAN HUMIDITY OF 1873.—(*Continued.*)

	MONGHYR.					DARJEELING.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January ...	62	76	56	44	70	74	80	61	71	85
February ...	51	69	46	32	57	71	78	58	62	86
March ...	47	61	44	31	52	67	75	53	63	79
April ...	49	71	44	29	53	77	83	68	69	86
May ...	44	61	40	28	46	78	85	69	70	88
June ...	65	79	60	50	71	88	94	84	79	95
July ...	83	92	80	71	88	92	98	87	85	98
August ...	84	91	81	75	88	90	96	85	84	97
September ...	79	89	76	68	85	91	96	86	85	96
October ...	57	73	53	39	64	65	72	52	57	78
November ...	54	69	50	38	59	56	63	41	52	69
December ...	57	71	53	39	63	68	73	58	59	82
Year ...	61	75	57	45	66	76	83	67	70	86

	GOALPARA.					BENARES.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January ...	73	91	70	57	74	60	82	48	34	75
February ...	66	84	60	53	67	58	76	45	43	69
March ...	64	82	58	48	66	46	66	35	26	56
April ...	81	93	78	69	85	38	54	30	23	46
May ...	77	90	74	66	78	35	51	27	21	42
June ...	85	.....	87	82	90	40	54	37	25	46
July ...	81	.....	84	78	.....	79	86	75	71	82
August ...	81	.....	83	79	.....	80	91	73	70	86
September ...	80	.....	85	74	.....	73	87	68	58	77
October ...	65	.....	72	58	.....	56	78	46	32	69
November ...	63	.....	72	53	.....	68	87	58	46	82
December ...	67	.....	79	55	.....	70	89	58	46	86
Year ...	...	.....	75	64	.....	58	75	50	41	68

2 obs.

TABLE XXI.—MEAN HUMIDITY OF 1873.—(*Concluded.*)

ROORKEE.

	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	59	80	56	33	68
February	53	75	51	26	62
March	42	66	34	20	49
April	22	39	18	10	20
May	41	59	34	25	48
June	36	57	33	18	34
July	75	86	70	63	82
August	79	90	72	68	86
September	79	91	74	65	86
October	61	86	48	35	76
November	58	83	46	33	69
December	69	86	63	48	79
Year ...	56	75	50	37	63

TABLE XXII.—MEAN MONTHLY HUMIDITY OF ADDITIONAL STATIONS IN CEYLON AND THE NORTH-WESTERN AND CENTRAL PROVINCES IN 1873, FROM TWO OBSERVATIONS (AT 10*h*. AND 16*h*.) DAILY.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Goruckpore	60	44	46	41	42	57	76	75	69	44	40	48	54
Jhansi	42	36	27	17	27	35	74	74	73	39	38	45	44
Allahabad	52	46	34	26	32	37	77	75	74	48	47	55	50
Lucknow	46	43	40	35	43	41	76	73	70	47	42	49	50
Agra	46	38	37	18	34	35	74	79	78	47	46	53	49
Ajmere	47	42	36	27	33	38	69	70	58	27	...	35	...
Bareilly	52	38	37	21	33	33	74	73	72	44	43	49	47
Meerut	55	42	36	23	38	29	70	71	69	48	45	56	48
Saugor	32	30	14	8	16	35	79	77	74	23	25	32	37
Jubbulpore	40	38	32	27	25	38	74	64	66	47	41	50	45
Hoshungabad	34	33	21	14	20	37	75	77	78	42	36	39	42
Chanda	47	44	34	43	48	55	71	72	73	54	50	47	53
Raipore	33	35	32	24	32	43	74	71	70	41	33	38	44
Akola	52	49	41	37	38	57	62	47	62	43	44	...	...
Omraoti	44	40	31	26	40	54	69	70	63	32	32	...	...
Seoni	31	28	21	17	23	42	78	72	71	33	32	37	40
Nagpore	42	39	25	19	28	49	71	69	70	34	36	36	43
Jaffna	74	81	74	81	81	85	83	82	88	85	83	82	82
Trincomalee	71	78	74	73	71	63	59	69	63	74	85	84	72
Colombo	79	84	78	82	87	86	85	84	85	84	83	83	83
Galle	81	83	83	87	85	90	90	93	90	91	89	88	88

TABLE XXIII.—AVERAGE MONTHLY HUMIDITIES OF SEVERAL STATIONS DEDUCED FROM THE REGISTERS OF 1869—73.

A.—Means of four observations daily.

Stations	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	4	65	65	65	67	68	68	73	73	75	73	66	64	68
Akyab	4—6	76	75	75	76	81	87	89	87	85	85	81	78	81
False Point	6	80	79	83	86	85	84	85	85	83	79	72	75	81
Cuttack	6	68	66	65	66	67	75	82	83	83	78	69	68	72
Saugor Island ...	5—6	75	76	78	80	81	84	86	87	86	83	75	75	80
Chittagong	5—6	71	71	74	80	82	86	88	88	87	83	78	74	80
Calcutta	6	67	66	67	72	75	83	87	88	87	79	71	69	76
Jessore	4—5	69	64	63	68	77	82	87	87	86	82	76	74	76
Dacca	5—6	71	67	70	77	84	89	89	89	88	81	73	71	79
Silchar	4—5	80	75	74	77	82	88	88	89	88	86	82	81	82
Hazareebagh ...	5—6	50	39	36	33	40	65	86	85	83	64	52	51	57
Berhampore	5—6	67	60	54	62	67	80	86	85	84	76	71	69	72
Gya	2—4	57	43	27	33	47	61	81	81	79	65	52	57	57
Patna	4—5	68	56	46	44	50	63	81	83	80	70	62	64	64
Monghyr	4—5	61	56	44	47	54	72	84	84	84	71	62	62	65
Darjeeling	6	76	77	68	75	81	90	91	92	90	77	72	71	80
Goalpara	4—5	72	65	61	73	79	88	86	86	87	81	77	75	77
Benares	4—5	66	59	44	39	40	58	82	82	81	68	66	68	63
Roorkee	6	64	62	51	37	37	52	78	78	76	61	57	64	60

B.—Means of two observations (10h. and 16h. daily).

Galle	4	85	83	80	82	85	88	88	89	89	87	87	86	86
Colombo	3—4	81	80	81	83	83	86	84	83	86	83	83	81	83
Trincomalee	3—4	77	75	72	71	67	65	64	68	68	74	85	81	72
Jaffna	3	74	72	72	75	80	82	81	82	84	80	82	81	79
Port Blair	6	69	70	68	68	79	81	82	81	83	80	73	70	75
Madras	6	62	61	59	60	55	52	54	59	62	69	72	67	61
Hazareebagh ...	7	46	36	31	29	34	60	81	81	78	56	44	42	51
Patna	6	54	47	32	34	40	56	72	76	74	54	46	51	53
Goalpara	5	64	57	50	63	74	85	83	82	83	74	69	67	71
Goruckpore	5—6	58	49	45	41	50	67	81	80	78	57	50	57	59
Allahabad	5—6	56	46	37	33	34	50	76	76	76	54	47	53	53
Jhansi	6	48	38	32	24	26	46	71	69	67	41	34	42	45
Lucknow	6	58	48	34	30	37	53	76	76	74	52	45	53	53
Agra	6	54	47	39	28	32	43	69	74	70	45	40	50	49
Ajmere	6	45	40	35	30	33	44	65	67	58	35	35	42	44
Bareilly	5—6	61	52	43	33	36	53	76	75	74	58	50	57	56
Meerut	5	53	46	38	28	37	45	71	71	67	47	43	52	50
Saugor	3—4	37	26	16	16	19	45	78	78	71	32	27	33	40
Jubbulpore	5	41	35	30	24	22	44	65	66	67	53	41	44	44
Hoshungabad	4	44	29	22	22	23	48	78	81	73	48	40	44	46
Chanda	3—4	52	43	38	39	40	57	75	71	75	59	56	54	55
Raipore	5	41	32	30	26	25	51	78	74	74	54	41	43	47
Seoni	4—5	40	34	27	21	21	51	79	78	76	50	41	43	47
Nagpore	5	41	33	27	23	23	50	72	69	71	48	45	46	46

TABLE XXIV.—COMPARISON OF THE MEAN HUMIDITIES OF EACH MONTH OF 1873 WITH THE AVERAGES OF TABLE XXIII.

From Table A.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	Year.
Vizagapatam	+ 1	0	+ 1	+ 2	0	— 3	+ 1	+ 1	— 2	+ 2	— 1	+ 3	0
Akyab	— 4	— 1	— 1	?	— 3	?	?	?	+ 4	+ 3	+ 2	+ 2	?
False Point...	0	— 3	+ 1	+ 3	+ 2	+ 1	+ 1	0	— 1	+ 2	+12	+ 6	+ 2
Cuttack	— 1	— 6	0	+ 2	— 3	— 9	0	+ 1	— 2	— 2	+ 1	— 1	— 2
Saugor Island	?	?	?	0	— 2	— 5	— 1	?	— 3	— 5	— 1	— 3	?
Chittagong	+ 2	— 6	— 6	— 3	— 3	— 2	— 1	0	— 2	0	— 1	+ 4	— 2
Calcutta	+ 2	— 3	0	+ 3	— 3	— 6	+ 2	0	— 2	— 6	— 3	— 1	— 1
Jessore	+ 1	— 4	+ 1	+ 6	?	?	?	?	?	?	?	?	?
Dacca	0	— 6	— 3	+ 1	— 4	?	— 1	?	— 3	— 6	— 3	— 1	?
Silchar	+ 1	+ 1	+ 2	+ 3	— 4	0	— 2	— 2	?	— 1	— 3	— 2	?
Berhampore	0	+ 1	+ 7	— 1	—12	— 8	0	+ 1	— 2	— 8	— 6	— 3	— 3
Monghyr	— 2	— 5	+ 3	+ 2	—10	— 7	— 1	0	— 5	—14	— 8	— 5	— 5
Darjeeling	— 2	— 6	— 1	+ 2	— 3	— 2	+ 1	— 2	+ 1	—12	—16	— 3	— 4
Benares	— 6	— 1	+ 2	— 1	— 5	—18	— 3	— 2	— 8	—12	+ 2	+ 2	— 4
Roorkee	— 5	— 9	— 9	—15	— 4	—16	— 3	+ 1	+ 3	0	+ 1	+ 5	— 4
Goalpara	+ 1	+ 1	+ 3	+ 8	— 2	?	?	?	?	?	?	?	?

From Table B.

Galle	— 4	0	+ 3	+ 5	0	+ 2	+ 2	+ 4	+ 1	+ 4	+ 2	+ 2	+ 2
Colombo	— 2	+ 4	— 3	— 1	+ 4	0	+ 1	+ 1	— 1	— 1	0	+ 2	0
Trincomalee	— 6	+ 3	+ 2	+ 2	+ 4	— 2	— 5	+ 1	— 5	0	0	+ 3	0
Jaffna	0	+ 9	+ 2	+ 6	+ 1	+ 3	+ 2	0	+ 4	+ 5	+ 1	+ 1	+ 3
Port Blair	— 2	— 1	+ 3	+ 1	— 6	0	— 2	— 4	— 2	0	+ 1	+ 1	— 1
Madras	— 3	+ 5	— 1	+ 3	+ 4	— 6	— 8	— 1	— 4	+ 6	— 2	+ 2	0
Hazareebagh	—13	—12	—14	—14	—10	—22	0	— 3	— 7	—17	— 9	— 6	—11
Patna	— 4	?	?	?	—14	— 7	0	— 1	— 9	—17	— 5	+ 3	?
Goalpara	0	0	+ 3	+11	— 4	0	— 2	— 1	— 3	— 9	— 6	0	— 1
Gorcukpore	+ 2	— 5	+ 1	0	— 8	—10	— 5	— 5	— 9	—13	—10	— 9	— 6
Allahabad	— 4	0	— 3	— 7	— 2	—13	+ 1	— 1	— 2	— 6	0	+ 2	— 3
Jhansi	— 6	— 2	— 5	— 7	+ 1	—11	+ 3	+ 5	+ 6	— 2	+ 4	+ 3	— 1
Lucknow	—12	— 5	+ 6	+ 5	+ 6	—12	0	— 3	— 4	— 5	— 3	— 4	— 3
Agra	— 8	— 9	— 2	—10	+ 2	— 8	+ 5	+ 5	+ 8	+ 2	+ 6	+ 3	— 1
Ajmere	+ 2	+ 2	+ 1	— 3	0	— 6	+ 4	+ 3	0	— 8	?	— 7	?
Bareilly	— 9	— 4	— 7	—13	— 3	—18	— 2	— 3	— 5	—13	— 9	— 8	— 8
Meerut	+ 2	— 4	— 2	— 5	+ 1	—16	— 1	0	+ 2	+ 1	+ 2	+ 4	— 1
Saugor	— 5	+ 4	— 2	— 8	— 3	—10	+ 1	— 1	+ 3	— 9	— 2	— 1	— 3
Jubbulpore	— 1	+ 3	+ 2	+ 3	+ 3	— 6	+ 9	— 2	— 1	— 6	0	+ 6	+ 1
Hoshungabad	—10	+ 4	— 1	— 8	— 3	—11	— 3	— 4	+ 5	— 6	— 4	— 5	— 4
Chanda	— 5	+ 1	— 4	+ 4	+ 8	— 2	— 4	+ 1	— 2	— 5	— 6	— 7	— 2
Raipore	— 8	+ 3	+ 2	— 2	+ 7	— 8	— 4	— 3	— 4	—13	— 8	— 5	— 4
Seoni	— 9	— 2	— 6	— 4	+ 2	— 9	— 1	— 6	— 5	—17	— 9	— 6	— 6
Nagpore	+ 1	+ 6	— 2	— 4	+ 5	— 1	— 1	0	— 1	—14	— 9	—10	— 3

As a general rule both the vapour tension and relative humidity of the air have been very low throughout the past year. The quantity of vapour existing in the atmosphere has been greatly less than the average, and as a consequence of this and, in general, of the prevailing high temperature, its tendency to precipitation as rain was comparatively small. The exceptional cases, shown by table XXIV, in which the air was damper than usual, are few and unimportant. At False Point alone among the Bengal stations, at Saugor in the Central Provinces, and at Galle and Jaffna in Ceylon, was the mean humidity of the year greater than usual.

The unusual dryness of the atmosphere is shown most strikingly by Hazareebagh, where the humidity was not less than 11 per cent. of saturation below the average of the year. This station, being situated on the highest part of an extensive plateau, where there is little local evaporation, has, as a rule, a drier atmosphere than those at lower levels, except in the months of the rains. But during the first six months of the past year, and again in October, its humidity in the day-time ranged from 10 to 22 per cent. below even the local average. The driest months abnormally, both here and generally throughout Northern and Central India, were June and October; a fact which is accounted for by the retardation of the south-west monsoon and its early cessation.

The tables given in last year's report show that in November and December, the first two months of the northerly monsoon, the atmosphere was in general moister than usual; Darjeeling and Patna being the only exceptions of importance shown in the table. To these may be added Bareilly in the North-Western Provinces, and Jubbulpore, Saugor and Seoni in Central India; less decidedly also, Allahabad, Goruckpore, Hoshungabad, and Raipore. In January the air became generally drier, so that the humidity remained above the average only at a few stations in the Gangetic delta and Eastern Bengal, at Goruckpore. Meerut, Ajmere, and Nagpore; and at these but slightly above it. The greatest fall took place at Jhansi, and it was but little less at Chanda, Nagpore, Raipore, Hazareebagh, Hoshungabad, Lucknow and Roorkee. February was a still drier month in Bengal proper, less so in the North-Western Provinces; while the humidity in Central India generally rose above the average. In March, the air was in general somewhat moister than the average in Bengal, excepting Hazareebagh, but less so in the Central Provinces; while in the North-Western Provinces considerable irregularities are shown by the table. April also was, on the whole, damper than usual in Lower Bengal, but not in the North-West or Central India; and at Roorkee, Agra and Bareilly the per centage of humidity was from 10 to 15 per cent. lower than the average of the month. In May the dryness of the atmosphere of Northern Bengal and Behar was excessive. At Patna, Berhampore, and Monghyr, the deficit of moisture amounted to between 10 and 14 per cent. of saturation, and at Goruckpore to 8 per cent.; but in the upper part of the North-Western Provinces and generally in Central India, with a few local exceptions, the reverse condition obtained, the humidity being greater than usual. In June the comparative dryness was excessive and universal, with the single exception of False Point. It was greatest at Hazareebagh (—22); but at Benares and Bareilly it was —18, at Meerut and Roorkee —16, and at Lucknow, Jhansi, Allahabad, Hoshungabad, Saugor and Goruckpore, the deficit amounted to 10 per cent. and upwards. The months of the south-west monsoon were generally drier than usual; though Jhansi, Agra and Ajmere offered exceptions to the rule. But in September the dryness increased considerably in Behar and the western part of Oude and the Central Provinces, and in October, once more became excessive. In the last two months the excessive dryness was somewhat abated; less so in the Central Provinces and in the neighbourhood of the Himalaya than elsewhere. At Darjeeling, in December, the snows were scarcely lower on the mountains than they had been in July and August; and almost up to the close of the year, the view of the snowy range was as perfect and unclouded as is usually to be seen only in the month of October.

SERENITY.

The tables next following show the mean proportions of unclouded sky, as estimated at the regular hours of observation. A clear and unclouded sky is designated by 10, an overcast sky as 0. This, which is the mode of notation followed by most Continental Meteorologists, differs from that in use by other Meteorological officers in India, who are accustomed to record the converse of the above, viz. the proportion of cloud-covered sky by figures from 0 to 10. The one kind of table is of course readily convertible into the other by taking the difference between the assigned numbers and 10. Thus 3·47 of clear sky is only another way of expressing the fact that 10—3·47 = 6·53 is the proportion covered by cloud. Calcutta and False Point do not furnish these observations. In some cases the means are derived from four daily observations (two of which are taken in the night), in other cases from the two observations of the day-time only. As may be seen in the cases of Jessore, Goalpara and Hazareebagh in table XXVII, the results of the less complete data do not differ greatly from those of the more complete series. Owing to the fact that the sky is somewhat more free from cloud during the early hours of the night than during the day-time, the figures in series B are in general somewhat lower than those in series A.

In table XXVII of the average serenity of several stations, I have not included the stations of the North-Western Provinces, except Benares and Roorkee; for the remaining stations I have the results of only three years or less; and since 1873, and to some extent 1872, was a very abnormal year in this respect, such averages would scarcely be useful for comparison. The stations are arranged in two series, one of which is based on four observations daily at equidistant periods of six hours, the other on the two-day observations. A similar division is adopted in Table XVIII, which shows the difference of the means of 1873 and the averages of the preceding table.

TABLE XXV.—MEAN SERENITY OF 1873.

	PORT BLAIR.					NANCOWRY.			VIZAGAPATAM.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	10h.	16h.	Mean.	4h.	10h.	16h.	22h.
January	6·50	...	6·68	6·32	...	...	...	...	9·31	9·65	8·97	8·87	9·77
February	6·64	...	6·54	6·75	...	...	...	...	8·70	8·59	8·70	8·68	8·82
March	6·85	...	6·77	6·94	...	...	...	...	8·79	8·35	8·66	9·12	9·03
April	7·15	...	7·13	7·17	...	...	...	...	6·53	5·68	7·10	6·77	6·57
May	5·30	...	5·48	5·13	...	5·56	4·71	6·42	6·41	7·11	7·94	5·71	4·87
June	1·41	...	1·33	1·50	...	1·74	1·74	1·74	5·80	5·90	5·87	4·83	6·62
July	4·29	...	4·81	3·77	...	5·74	4·90	6·58	3·37	3·42	3·58	2·94	3·56
August	5·89	...	6·68	5·10	...	7·80	8·45	7·16	4·92	5·35	4·47	4·56	5·31
September	5·58	...	6·27	4·90	...	6·55	6·70	6·40	5·38	6·18	5·10	4·40	5·83
October	6·37	...	6·68	6·06	...	6·59	6·35	6·84	3·71	3·61	3·44	3·92	3·87
November	7·33	...	7·80	6·87	...	...	...	...	6·42	7·13	5·82	6·02	6·72
December	8·38	...	8·29	8·48	...	5·92	6·29	5·55	7·32	7·76	7·05	7·05	7·44
Year ...	5·97	...	6·20	5·75	...	...	...	...	6·39	6·56	6·39	6·07	6·53

	AKYAB.					CUTTACK.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January	9·58	9·61	9·32	9·48	9·90	9·00	9·33	8·74	8·45	9·48
February	9·43	9·25	9·18	9·46	9·82	9·56	9·71	9·36	9·36	9·82
March	8·94	9·00	8·55	9·06	9·16	8·63	8·86	8·55	8·45	8·64
April	6·88	6·73	5·67	7·50	7·60	7·41	6·53	7·73	7·30	8·07
May	6·59	6·60	4·61	7·29	7·84	7·19	8·23	7·84	5·19	7·52
June	1·64	.....	1·10	1·57	2·26	5·37	6·40	5·33	4·90	4·87
July	1·27	1·07	0·94	1·23	1·84	2·89	3·31	2·58	2·45	3·23
August	2·47	3·00	2·00	2·00	2·90	4·70	5·94	3·84	3·35	5·68
September	2·99	2·53	2·53	3·23	3·67	6·12	7·00	5·30	5·03	7·13
October	4·49	5·23	2·97	3·77	6·00	6·53	7·71	5·77	5·32	7·32
November	6·77	7·80	6·33	5·63	7·33	7·47	7·80	7·23	6·90	7·93
December	7·76	8·03	7·68	7·26	8·06	8·01	8·03	7·77	7·84	8·39
Year ...	5·73	.....	5·07	5·62	6·36	6·91	7·40	6·67	6·21	7·34

TABLE XXV.—MEAN SERENITY OF 1873.—(*Continued.*)

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	8·63	.....	8·42	8·84	.....	9·54	9·43	9·71	9·52	9·52
February	9·27	.....	9·46	9·07	.....	9·09	8·37	9·43	8·96	9·61
March	5·73	.....	5·45	6·00	.....	8·11	8·39	7·10	8·06	8·90
April	3·00	4·14	1·60	1·47	4·80	5·70	5·85	4·93	5·73	6·27
May	5·51	7·00	4·74	4·20	6·10	6·81	6·94	5·48	6·94	7·90
June	2·50	2·33	2·23	2·27	3·17	2·93	3·43	1·80	2·67	3·80
July	1·96	1·61	1·16	1·74	3·32	2·35	2·61	1·52	1·71	3·55
August	3·17	4·69	1·16	2·23	4·61	3·02	3·00	3·32	2·06	3·71
September	4·21	4·83	3·47	2·90	5·63	5·00	5·79	4·43	4·57	5·20
October	5·18	6·61	3·90	3·26	6·94	5·83	6·71	4·45	5·48	6·68
November	6·30	7·13	6·03	5·27	6·77	7·85	8·23	7·23	7·47	8·47
December	6·81	6·71	6·35	6·94	7·23	7·77	7·71	7·42	7·77	8·16
Year ...	5·19	.....	4·50	4·52	.....	6·17	6·37	5·57	5·91	6·81

	BURDWAN.					JESSORE.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	.....	.....	.....	.....	.....	9·47	9·39	9·39	9·35	9·74
February	.....	.....	.....	.....	.....	9·20	9·04	9·36	8·75	9·64
March	.....	.....	.....	.....	.....	7·95	6·93	7·71	8·39	8·78
April	.....	.....	.....	.....	.....	6·31	5·73	5·83	6·43	7·23
May	.....	.....	.....	.....	.....	7·18	.....	7·48	6·87	.....
June	.....	.....	.....	.....	.....	3·78	.....	3·67	3·90	.....
July	.....	.....	.....	.....	.....	1·90	.....	1·77	2·03	.....
August	.....	.....	.....	.....	.....	2·76	.....	2·42	3·10	.....
September	4·68	.....	4·83	4·53	.....	4·27	.....	4·60	3·93	.....
October	7·00	.....	7·13	6·87	.....	7·31	.....	7·77	6·84	.....
November	7·27	.....	7·33	7·20	.....	8·00	.....	8·16	7·84	.....
December	8·34	.....	8·23	8·45	.....	8·53	.....	8·65	8·42	.....
Year ...	.....	.....	.....	.....	.....	6·39	.....	6·40	6·32	.....

TABLE XXV.—MEAN SERENITY OF 1873.—(*Continued.*)

	DACCA.					SILCHAR.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	9·53	9·74	9·10	9·29	10·00	7·25	6·03	7·45	7·39	8·13
February	8·90	8·44	8·71	8·82	9·61	7·97	7·57	7·50	8·04	8·79
March	7·31	6·21	6·73	7·57	8·72	6·16	5·42	6·74	5·74	6·74
April	5·12	3·38	5·92	5·07	6·10	5 25	4·93	5·20	5·13	5·73
May	6·57	7·03	7·00	5·50	6·74	4·71	6·55	5·48	1·90	4·90
June	3·03	3·15	2·03	3·57	3·37	1·36	0·92	1·40	1·10	2·00
July	1·27	0·54	0·58	1·57	2·38	1·31	1·35	2·13	1·06	0·71
August	2·02	3·09	0·90	1·71	2·38	2·07	2·45	2·39	1·39	2·06
September	4·51	4·96	2·80	3·69	6·59	2·64	...	1·00	2·43	4·50
October	6·69	7·63	5·67	5·24	8·24	4·65	3·84	4·16	4·94	5·68
November	7·42	7·57	7·44	7·00	7·68	7·14	7·80	6·70	6·57	7·50
December	8·19	8·13	8·19	7·97	8·45	7·76	8·19	7·06	7·29	8·48
Year ...	5·88	5·82	5·42	5·58	6·69	4·86	...	4·77	4·41	5·44

	HAZAREEBAGH.					BERHAMPORE.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	9·04	...	9·03	8·90	9·19	8·83	8·16	9·29	8·90	8·97
February	8·90	...	8·71	8·68	9·32	8·89	8·93	9·18	8·03	9·43
March	7·76	...	7·87	7·77	7·65	7·80	7·90	7·32	7·81	8·16
April	8·41	...	8·46	8·00	8·77	6 78	7·07	6·53	5·87	7·63
May	7·43	...	8·19	6·00	8·10	6·93	7·58	6·93	5·74	7·48
June	3·97	...	5·80	2·93	3·17	4·30	6·92	3·50	1·80	5·00
July	1·26	...	0·87	1·19	1·71	2·31	2·26	0·61	1·26	5·10
August	2·62	...	2·26	1·87	3·74	2·79	4·52	1·45	0·80	4·39
September	4·42	...	4·93	3·90	...	4·47	5·63	3·53	2·27	6·43
October	7·47	...	7·71	7·23	...	6·71	6·87	5·97	6·32	7·68
November	7·33	..	7·40	7·27	...	7·84	9·27	7·47	7·40	7·23
December	8·69	...	8·97	8·42	...	7·32	7·03	8·16	7·90	6·19
Year ...	6·44	...	6·68	6·01	...	6·25	6·84	5·83	5·34	6·97

TABLE XXV.—MEAN SERENITY OF 1873.—(*Continued.*)

	GYA,					PATNA.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	9·31	8·87	9·68	9·68	9·03	8·83	8·71	8·84	8·68	9·10
February	8·75	8·05	9·18	8·35	9·43	...	...	...	...	...
March	7·55	...	7·58	7·61	7·45	...	...	...	...	...
April	...	...	...	...	...	...	...	...	...	...
May	...	...	...	...	...	9·16	...	9·68	8·65	...
June	...	...	...	...	...	7·45	...	6·83	8·07	...
July	...	...	...	...	...	2·32	...	2·42	2·23	...
August	3·79	...	3·68	3·90	...	3·85	...	3·83	3·87	...
September	5·34	...	5·80	4·88	...	5·15	...	5·00	5·30	...
October...	8·69	...	8·84	8·55	...	8·69	...	8·94	8·45	...
November	8·33	...	8·38	8·28	...	8·18	...	8·07	8·30	...
December	9·09	...	8·84	9·34	...	8·81	...	8·77	8·84	...

	MONGHYR.					DARJEELING.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	8·42	8·45	8·26	8·42	8·55	3·40	...	4·39	2·42	...
February	8·46	8·54	7·96	8·68	8·64	4·61	...	5·04	4·18	...
March	7·52	7·03	7·90	7·65	7·52	4·77	...	5·81	3·74	...
April	8·18	8·32	7·23	8·37	8·80	4·06	...	4·55	3·57	...
May	7·52	7·87	7·52	7·13	7·58	4·26	...	4·65	3·87	...
June	4·95	4·07	5·13	4·77	5·83	1·64	...	1·13	2·16	...
July	1·23	1·81	0·45	1·00	1·64	1·31	...	1·06	1·55	...
August	2·43	2·68	1·35	1·84	3·84	1·58	...	1·68	1·49	...
September	4·06	4·16	3·87	3·97	4·23	1·68	...	1·57	1·80	...
October...	8·38	7·93	8·45	8·10	9·06	7·37	...	8·35	6·39	...
November	7·83	7·89	7·45	7·86	8·14	6·58	...	7·83	5·33	...
December	9·07	9·46	8·69	8·97	9·14	6·42	...	7·19	5·65	...
Year ...	6·50	6·52	6·19	6·40	6·91	3·97	...	4·44	3·51	...

TABLE XXV.—MEAN SERENITY OF 1873.—(*Concluded.*)

	GOALPARA.					BENARES.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	6·31	5·29	6·57	6·68	6·68	8·18	8·40	8·48	7·45	8·40
February	6·27	5·33	6·36	6·25	7·14	8·04	7·75	7·86	7·86	8·71
March	5·19	4·76	5·03	5·65	5·32	8·44	8·17	8·68	8·45	8·45
April	3·87	3·69	3·73	4·10	3·97	8·65	8·29	8·79	8·44	9·08
May	4·87	4·12	4·97	4·97	5·42	6·91	7·63	7·00	5·20	7·83
June	1·55	0·05	1·30	1·40	3·43	6·17	6·47	6·00	5·67	6·53
July	0·92	.....	0·74	1·10	.....	2·28	2·10	1·77	2·23	3·00
August	1·53	.....	1·68	1·38	.....	3·02	2·80	3·03	3·23	3·00
September	2·62	.....	2·03	3·20	.....	3·04	3·93	2·50	2·83	2·89
October	7·81	.....	8·16	7·45	.....	.....	.....	.....	.....	.....
November	7·97	.....	8·10	7·83	.....	.....	.....	.....	.....	.....
December	8·68	.....	9·03	8·32	.....	.....	.....	.....	.....	.....
Year ...	4·80	.....	4·81	4·86	.....	.....	.....	.....	.....	.....

	ROORKEE.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	7·85	8·07	8·03	7·39	7·90
February	8·62	8·19	8·04	8·75	9·50
March	8·46	9·10	8·06	8·26	8·42
April	9·51	9·77	9·20	9·43	9·63
May	7·84	7·52	7·81	8·13	7·90
June	8·74	9·07	9·17	8·63	8·07
July	3·35	2·71	3·55	3·58	3·58
August	5·56	6·32	5·39	4·84	5·71
September	6·27	6·20	6·30	6·50	6·07
October	9·47	9·22	9·39	9·71	9·58
November	9·42	9·73	8·83	9·17	9·97
December	8·06	8·94	8·35	7·45	7·48
Year ...	7·76	7·90	7·68	7·65	7·82

TABLE XXVI.—MEAN MONTHLY SERENITY OF ADDITIONAL STATIONS IN CEYLON AND THE NORTH-WEST AND CENTRAL PROVINCES IN 1873.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Gorucknpore	9·00	9·30	9·10	9·40	8·40	7·70	5·00	5·50	6·00	9·30	9·70	9·30	8·18
Jhansi	9·40	9·50	10·00	10·00	10·00	9·20	3·00	4·80	7·60	10·00	10·00	...	...
Allahabad	7·80	7·90	8·30	9·00	8·00	5·70	1·20	3·60	5·30	9·80	9·20	8·90	7·13
Lucknow	7·90	7·80	8·00	9·50	5·90	7·80	3·10	7·00	4·50	9·60	9·50	7·50	7·34
Agra	8·80	8·80	8·00	8·50	8·10	8·00	4·00	5·80	6·40	9·80	9·70	9·20	7·92
Ajmere	8·00	8·80	7·40	8·50	5·50	6·90	1·00	3·40	5·60	9·70	9·00	8·40	6·78
Bareilly	8·00	8·00	8·40	9·80	8·00	7·10	2·30	4·40	5·00	9·70	9·40	8·80	7·46
Meerut	7·80	8·80	8·00	9·10	7·20	7·00	0·30	4·40	4·00	9·40	9·40	8·50	6·99
Saugor	9·15	9·30	9·70	9·65	8·95	8·75	4·90	5·10	6·35	9·95	9·55	9·25	8·38
Jubbulpore	7·80	7·50	8·65	7·80	5·20	4·85	0·45	2·25	3·90	8·60	8·10	8·60	6·14
Hoshungabad	8·10	7·45	9·25	8·00	6·20	5·05	0·95	2·80	3·55	9·20	8·20	9·20	6·50
Chanda	8·90	7·25	8·20	6·65	4·45	2·80	0·35	1·65	2·75	5·45	6·95	7·15	5·21
Raipore	9·55	9·00	8·25	9·00	6·40	6·40	2·00	3·90	6·60	8·15	9·60	9·50	7·36
Seoni	3·95	3·75	5·85	4·20	5·75	5·90	7·10	7·05	6·55	4·25	4·60	4·00	5·25
Nagpore	8·20	8·45	8·15	6·80	5·15	4·45	1·60	2·55	3·10	6·90	7·65	8·55	5·96
Jaffna	5·80	5·90	7·50	6·90	5·70	4·40	5·30	4·30	4·80	4·10	3·50	5·00	5·27
Trincomalee	4·50	4·20	6·10	6·10	5·10	3·20	4·20	3·30	5·30	3·60	5·40	3·70	4·56
Colombo	5·90	4·00	5·10	4·50	3·80	2·50	3·40	3·50	4·20	3·20	3·90	5·60	4·13
Galle	4·90	3·90	4·60	3·60	2·50	1·60	2·00	2·50	3·10	1·90	2·50	3·70	3·07

TABLE XXVII.—AVERAGE MONTHLY SERENITY OF SEVERAL STATIONS DEDUCED FROM THE REGISTERS OF THE YEARS 1869—73.

A.—Four observations daily.

	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	4	8·31	8·78	8·61	6·91	5·85	4·43	3·23	3·77	4·27	4·83	6·94	7·84	6·15
Akyab	3—5	8·87	9·29	8·34	6·77	4·48	2·15	1·67	2·22	2·58	4·96	7·42	8·00	5·56
Cuttack	5	8·24	8·84	7·78	6·51	6·55	3·77	2·54	3·83	4·59	6·27	8·32	8·73	6·33
Saugor Island	4—5	8·40	8·51	6·21	4·96	4·33	2·61	2·22	2·88	3·76	5·61	7·95	6·04	5·29
Chittagong...	5	9·22	8·88	7·85	6·19	5·86	3·48	2·81	3·00	4·08	6·27	8·30	9·04	6·27
Jessore	4—5	8·78	8·69	7·73	6·86	5·90	3·64	3·41	4·05	4·75	6·51	9·03	9·22	6·55
Dacca	5	8·61	8·20	7·18	5·92	5·03	2·64	1·82	2·33	3·21	6·15	8·52	9·07	5·72
Silchar	4—5	8·08	8·21	7·05	6·13	5·64	3·94	3·37	3·01	3·80	5·80	7·62	7·98	5·89
Goalpara	5	6·34	6·80	6·32	4·86	3·53	1·58	1·96	2·19	2·64	5·29	6·86	6·94	4·61
Berhampore	5	8·07	8·75	7·51	6·57	5·61	2·53	1·96	2·07	2·63	6·10	8·35	8·52	5·72
Hazareebagh	4—5	7·38	8·28	7·06	7·08	7·05	3·28	1·50	2·90	3·16	6·66	8·15	8·16	5·89
Monghyr	5	8·03	8·57	7·91	7·90	7·34	3·67	2·38	2·66	3·34	7·26	8·81	8·57	6·37
Patna	4—5	7·69	8·20	7·67	7·48	7·83	4·78	2·29	2·36	3·21	7·16	8·83	8·58	6·34
Benares	3—4	7·50	8·05	7·75	7·57	7·17	4·02	1·78	2·12	3·14	8·07	8·80	7·96	6·16
Roorkee	5	7·09	7·26	6·92	8·04	8·40	6·59	3·13	3·77	5·30	9·34	9·29	7·94	6·92

B.—Two observations daily.

Port Blair...	5	6·40	6·77	7·53	6·11	4·02	2·86	3·51	3·95	4·42	4·79	6·11	6·85	5·28
Jessore	5	8·67	8·74	7·85	6·74	6·06	3·38	2·61	3·43	4·09	6·20	8·71	9·05	6·29
Hazareebagh	5	7·10	8·13	6·97	6·92	6·91	3·43	1·39	2·91	3·21	6·48	7·94	7·95	5·78
Patna	4—5	7·38	7·83	6·64	7·22	7·35	4·44	2·12	2·06	2·71	6·95	8·45	8·36	5·96
Darjeeling	5	4·58	4·38	4·90	4·54	2·92	1·46	1·48	1·45	1·67	4·85	5·05	5·50	3·56
Goalpara	5	6·50	6·72	6·00	4·90	3·88	1·68	2·35	2·23	2·75	5·46	5·88	7·18	4·63
Saugor	3—4	8·92	9·55	9·65	9·35	9·32	6·97	4·75	5·30	7·09	9·50	8·52	9·24	8·18
Jubbulpore	5	7·46	8·12	7·36	7·43	6·61	3·56	1·54	2·30	3·36	7·73	8·14	7·65	5·94
Hoshungabad	4	7·40	8·72	8·00	7·46	7·26	3·99	1·99	3·12	4·12	8·30	8·12	8·22	6·39
Chanda	3—4	8·10	8·17	7·64	6·55	6·22	3·12	1·65	1·96	2·09	6·62	7·30	7·49	5·49
Raipore	5	8·25	8·99	7·53	7·49	6·69	4·66	2·18	3·06	4·25	7·29	8·67	8·71	6·48
Seoni	3—5	6·26	5·27	6·84	5·88	6·51	5·02	4·00	4·84	5·73	5·06	6·04	6·07	5·63
Nagpore	5	7·41	8·68	7·38	6·69	6·10	3·56	1·97	2·44	2·82	6·56	7·39	7·41	5·70

TABLE XXVIII.—COMPARISON OF THE MEAN SERENITY OF 1873 WITH THE AVERAGES IN TABLE XXVII.

From Table A.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	+ 1·0	— 0·1	+ 0·2	— 0·4	+ 0·5	+ 1·4	+ 0·1	+ 1·2	+ 1·1	— 1·1	— 1·4	— 0·5	+
Akyab	+ 0·7	+ 0·1	+ 0·6	+ 0·1	+ 2·1	— 0·5	— 0·4	+ 0·3	+ 0·4	— 0·5	— 0·7	— 0·2	+ 0·2
Cuttack	+ 0·8	+ 0·7	+ 0·9	+ 0·9	+ 0·6	+ 1·6	+ 0·4	+ 0·9	+ 1·5	+ 0·3	— 0·9	— 0·7	+ 0·6
Saugor Island	+ 0·2	+ 0·8	— 0·5	— 2·0	+ 1·2	— 0·1	— 0·3	+ 0·3	+ 0·5	— 0·4	— 1·7	+ 0·8	— 0·1
Chittagong	+ 0·3	+ 0·2	+ 0·3	— 0·5	+ 1·0	— 0·5	— 0·5	0	+ 0·9	— 0·4	— 0·8	— 1·3	— 0·1
Jessore	+ 0·7	+ 0·5	+ 0·2	— 0·6	...	...	...	...	...	...	...	...	...
Dacca	+ 0·9	+ 0·7	+ 0·1	— 0·8	+ 1·5	+ 0·4	— 0·6	— 0·3	+ 1·3	+ 0·5	— 1·1	— 0·9	+ 0·1
Silchar	— 0·8	— 0·2	— 0·9	— 0·9	— 0·9	— 2·6	— 2·1	— 0·9	— 1·5	— 1·2	— 0·5	— 0·2	— 1·1
Goalpara	+ 0·2	— 0·4	— 1·2	— 0·8	+ 1·3	0	...	...	...	...	...	...	...
Berhampore	+ 0·8	+ 0·1	+ 0·3	+ 0·2	+ 1·3	+ 1·8	+ 0·4	+ 0·7	+ 1·8	+ 0·6	— 0·5	— 1·2	+ 0·5
Monghyr	+ 0·4	— 0·1	— 0·4	+ 0·3	+ 0·2	+ 1·3	— 1·2	— 0·2	+ 0·7	+ 1·1	— 1·0	+ 0·5	+ 0·1
Benares	+ 0·7	0	+ 0·7	+ 1·1	— 0·3	+ 2·2	+ 0·5	+ 0·9	— 0·1	...	...	...	...
Roorkee	+ 0·8	+ 1·4	+ 1·5	+ 1·5	— 0·6	+ 2·2	+ 0·2	+ 1·8	+ 1·0	+ 0·1	+ 0·1	+ 0·1	+ 0·9

From Table B.

Port Blair	+ 0·1	— 0·1	— 0·7	+ 1·0	+ 1·3	— 1·5	+ 0·8	+ 2·0	+ 1·2	+ 1·6	+ 1·2	+ 1·5	+ 0·7
Jessore	+ 0·7	+ 0·3	+ 0·2	— 0·6	+ 1·1	+ 0·4	— 0·7	— 0·7	+ 0·2	+ 1·1	+ 0·5	— 0·5	+ 0·2
Hazareebagh	+ 1·9	+ 0·6	+ 0·9	+ 1·3	+ 0·2	+ 0·9	— 0·4	— 0·8	+ 1·2	+ 1·0	— 0·6	+ 0·7	+ 0·6
Patna	+ 1·4	...	...	...	+ 1·8	+ 3·0	+ 0·2	+ 1·8	+ 2·4	+ 1·7	— 0·3	+ 0·5	...
Darjeeling	— 1·2	+ 0·2	— 0·1	— 0·5	+ 1·3	+ 0·2	— 0·2	+ 0·1	0	+ 2·5	+ 1·5	+ 0·9	+ 0·4
Goalpara	+ 0·1	— 0·4	— 0·7	— 1·0	+ 1·1	— 0·3	— 1·4	— 0·7	— 0·1	+ 2·4	+ 2·1	+ 1·5	+ 0·2
Saugor	+ 0·2	— 0·3	+ 0·1	+ 0·3	— 0·4	+ 1·8	+ 0·2	— 0·2	— 0·7	+ 0·5	+ 1·0	0	+ 0·3
Jubbulpore	+ 0·3	— 0·6	+ 1·3	+ 0·4	— 1·4	+ 1·3	— 1·1	0	+ 0·5	+ 0·9	0	+ 1·0	+ 0·2
Hoshungabad	+ 0·7	— 1·3	+ 1·2	+ 0·5	— 1·1	+ 1·0	— 1·0	— 0·3	— 0·5	+ 0·9	+ 0·1	+ 1·0	+ 0·1
Chanda	+ 0·8	— 0·9	+ 0·6	+ 0·1	— 1·8	— 0·3	— 0·3	— 0·3	+ 0·7	— 1·2	— 0·4	— 0·3	— 0·3
Kipore	+ 1·3	0	+ 0·7	+ 1·5	— 0·3	+ 1·7	— 0·2	+ 0·8	+ 2·4	+ 0·9	+ 0·9	+ 0·8	+ 0·9
Soni	— 2·3	— 1·5	— 1·0	— 1·7	— 0·8	+ 0·9	+ 2·1	+ 2·2	+ 0·8	— 0·8	— 1·4	— 2·1	— 0·5
Nagpore	+ 0·8	— 0·2	+ 0·8	+ 0·1	— 1·0	+ 0·9	— 0·4	+ 0·1	+ 0·3	+ 0·3	+ 0·3	+ 1·1	+ 0·3

From the above table it appears that at the great majority of stations in Northern and Central India, the year 1873 was characterised by an unusual absence of cloud. The chief exceptions were the stations of Silchar in Eastern Bengal, and Chanda and Seoni in Central India. The latter of these places is situated on the summit plateau of the Satpura range, and, as is shown in Table XXVII, it contrasts strikingly in respect of cloud obscuration with stations both to the north and south of that range; in the earlier months of the year it is more cloudy, in the rains it enjoys less clouded skies. Other and minor exceptions are afforded by Saugor Island and Chittagong, and during six months of the year by Goalpara.

February was a cloudy month in Central India; and May both there and in the North-Western Provinces. In July there was somewhat more cloud than usual at most places in Bengal and in Central India, but apparently not in the North-Western Provinces. November, and in most cases December, were unusually cloudy in Lower Bengal and over the Bay. With the local exceptions above noticed, the skies were abnormally serene in other months of the year.

RAINFALL.

Complete returns of the rainfall of the year are given for 193 stations, and incomplete returns for nine stations, making a total of 202, or 25 more than were included in last year's report. Of these two are in Madras, ten in the North-Western Provinces, one in Arakan; one each in the Andamans and Nicobar Islands, four in Ceylon, seven in the Central Provinces, and two in Berar.

The classification of the Bengal stations in Tables XXIX and XXX is the same as that followed in the report for 1872, and is that laid down by Government to be followed in all official reports.

The instruments in use at all the Bengal stations, and generally I believe elsewhere, are Symons' gauges, five (or in a few cases six) inches in diameter, the mouth being elevated one foot above the ground. The rainfall is in all cases measured in a graduated glass measure.

Table XXIX gives the total rainfall of each month of 1873, and that of the year. In Table XXX is given the number of days on which a measurable quantity of rain fell, the day being reckoned from 18 hours to 18 hours (6 P.M.). Table XXXI shows the average rainfall of 72 stations (15 more than were included in the report for 1872), arranged in three periods, viz. January to May (the season of sowing and germination of the principal crops of the year), June to September (the season of active growth), and October to December (the season of maturing and harvest); the last column shows the average of the whole year. The number of years from which these averages are taken, necessarily vary; and in many cases the averages for certain months for one and the same station are based on unequal periods. The minimum and maximum number of years in such cases are shown by two figures in the first column of the table. Table XXXII shows the difference of these averages and the rainfall of 1873 for the several periods corresponding to those of the previous table, and also of the annual totals.

Plate IV shows at a glance the distribution of rainfall in Bengal on the average of many years, and also that of 1873.

CHART OF RAINFALL IN 1873.

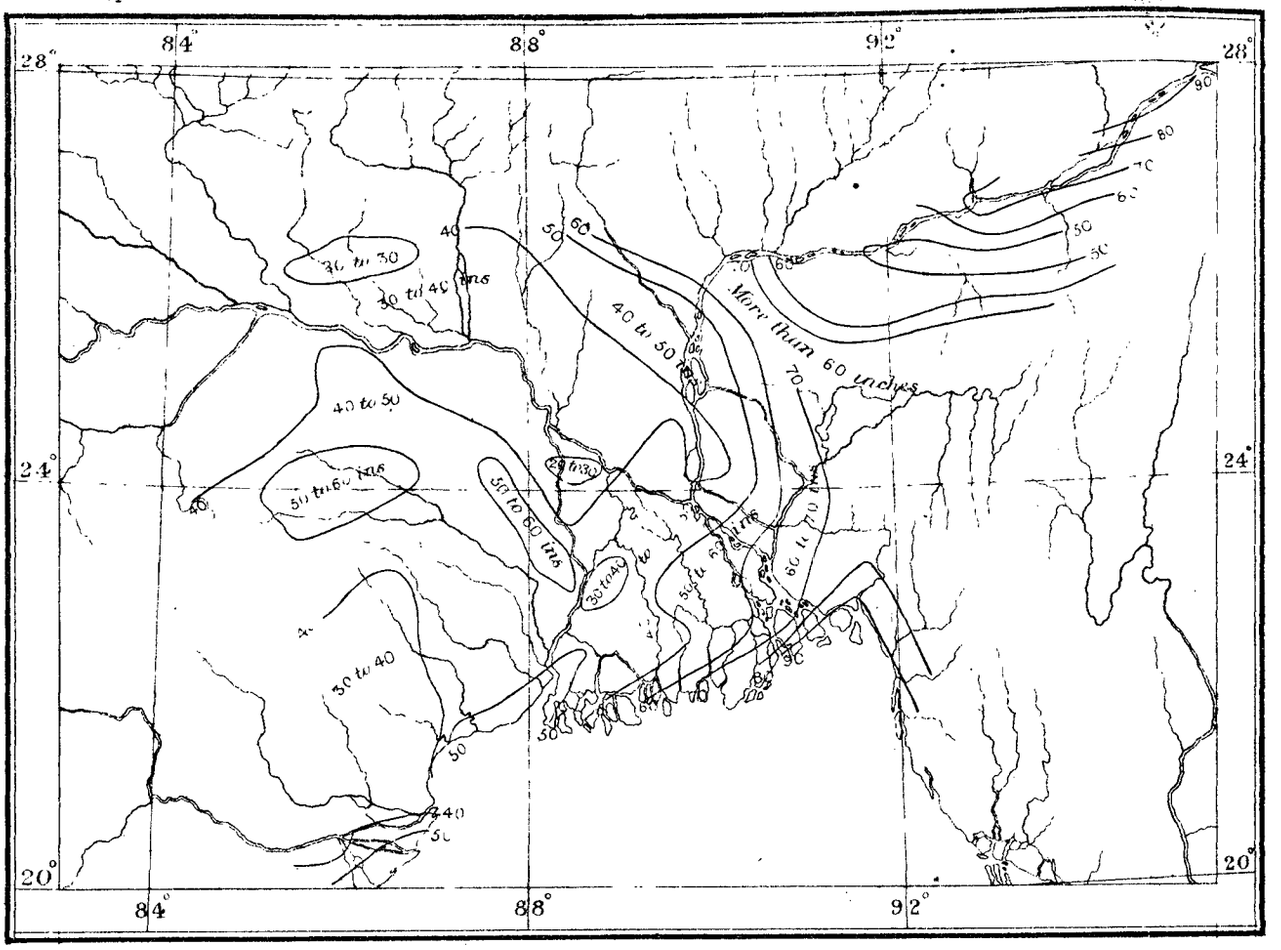
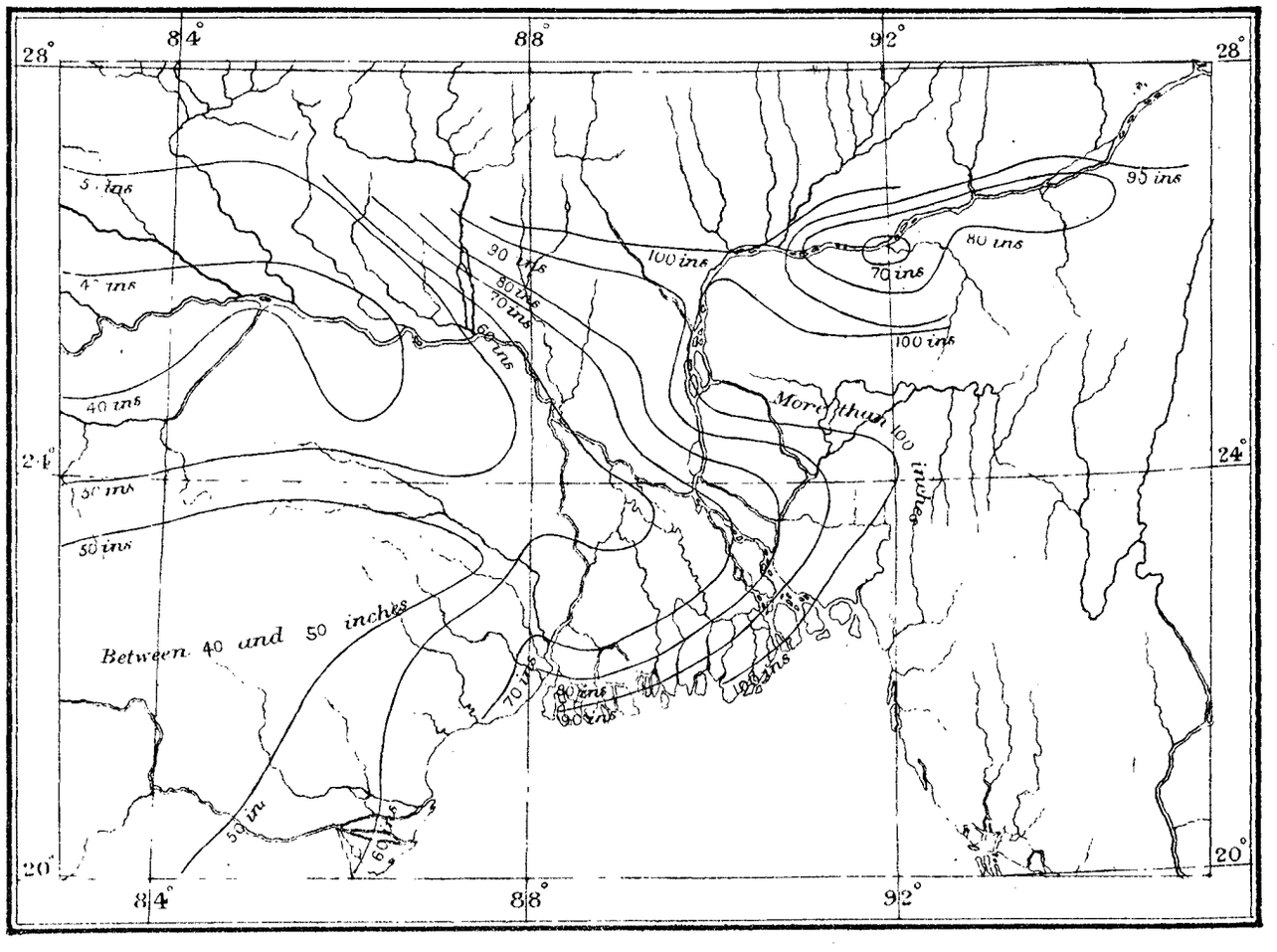


CHART OF AVERAGE RAINFALL



Printed at the Surveyor General's Office, Calcutta, March 1874.

TABLE XXIX.—RAINFALL IN 1873.

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Bengal.															
	Western Districts.															
Burdwan.	Burdwan ..	Burdwan ...	102	...	...	2·00	4·17	3·44	6·44	19·60	17·15	4·44	0·20	0·08	1·15	58·67
		Cutwa ...	...	...	0·10	2·05	1·09	3·45	5·62	12·29	11·58	2·76	0·36	0·07	...	39·37
		Culna ...	...	...	...	1·23	2·86	2·72	2·21	15·11	17·47	3·24	1·34	...	...	46·18
		Bood-bood ...	...	...	...	2·28	1·46	3·26	4·99	17·96	12·94	5·87	0·37	0·17	0·19	49·49
		Raneegunge ...	326	0·10	0·05	1·26	1·26	1·77	4·23	14·22	15·53	5·84	0·26	0·32	...	44·84
		Jehanabad ...	...	...	...	0·88	1·98	3·00	2·22	11·90	15·42	6·38	0·96	...	0·49	43·23
	Bankoora ...	Bankoora ...	...	...	...	5·49	1·45	2·26	3·28	15·18	14·72	3·65	0·80	0·44	0·07	47·34
	Beerbhoom ...	Soory ...	157	0·02	...	1·13	0·30	1·12	3·92	24·74	17·49	3·74	0·91	0·08	...	53·45
	Midnapore ..	Midnapore ...	108	0·18	...	0·72	1·95	9·21	7·11	13·97	6·60	4·92	0·11	0·01	0·04	44·82
		Tumlook ...	...	0·50	...	0·41	2·28	3·53	3·52	22·26	6·79	8·02	0·15	0·04	1·14	48·64
		Gurbetta ...	...	...	...	1·90	2·24	3·15	5·02	18·27	11·09	4·99	0·02	0·10	0·50	47·28
		Contai ...	43	...	...	0·17	3·10	3·50	5·28	15·08	7·95	12·37	3·57	0·88	1·21	53·11
	Hooghly ...	Hooghly ...	30	...	...	0·90	2·39	4·57	4·48	15·36	6·72	3·77	0·60	0·10	0·75	39·64
		Serampore ...	...	0·05	...	1·17	1·64	4·81	3·35	19·30	7·17	5·61	0·63	0·11	1·26	44·50
	Howrah ...	Howrah ...	18	0·05	...	1·20	1·81	3·58	4·41	19·31	8·83	6·63	0·74	0·23	0·78	47·37
	Central Districts.															
Presidency.		Saugor Island ...	6	...	...	1·83	1·52	3·11	2·20	11·60	8·94	7·33	4·66	1·09	0·26	42·54
	24-Pergunnahs...	Calcutta ...	18	...	...	1·18	1·84	3·78	4·30	14·76	16·23	5·82	2·40	0·14	0·82	45·27
		Alipore ...	16	...	...	1·11	1·45	3·75	3·55	15·73	12·11	5·12	1·54	0·03	0·50	44·89
		Busseerhat ...	...	...	...	0·65	0·76	3·40	7·49	15·93	8·79	5·95	0·48	0·23	...	43·62
		Baraset ...	20	...	0·02	0·59	0·97	3·62	2·57	14·65	10·22	7·36	0·18	0·09	0·52	40·79
		Diamond Harbour	10	0·45	...	0·97	2·32	3·16	4·21	18·16	11·37	9·25	0·95	0·29	0·05	51·18
		Barripore ...	...	...	...	1·39	2·90	4·88	3·91	20·29	8·11	8·43	0·27	2·21	0·03	52·42
		Satkhira ...	...	0·20	...	0·78	1·21	6·08	8·58	10·43	12·92	7·12	0·25	0·21	0·02	47·86
		Barrackpore ...	20	0·07	...	1·04	1·78	4·68	3·96	20·07	7·92	6·20	0·25	0·07	1·42	47·46
		Dum-Dum ...	20	...	...	1·41	1·72	3·67	3·65	17·50	12·36	8·08	0·39	0·12	0·55	49·45
	Nuddea ...	Kishnagurh ...	...	...	...	1·15	2·71	3·94	3·52	18·15	14·80	2·42	0·08	0·03	...	46·80
		Bongong ...	...	0·11	...	0·85	2·25	2·78	5·79	11·84	11·19	6·80	0·65	...	...	42·26
		Meherpore ...	...	...	0·25	1·45	1·77	3·08	4·93	17·47	16·82	4·06	2·28	0·20	...	52·31
		Chooadangah ...	...	...	...	1·37	2·02	4·21	4·83	10·79	15·96	4·64	2·10	0·32	...	46·24
		Kooslitea ...	...	0·24	0·06	0·81	4·70	1·76	4·18	14·13	8·80	3·62	0·36	....	0·35	39·01
		Ranaghat ...	...	...	...	0·44	1·63	3·45	4·35	9·31	11·78	3·02	0·53	...	...	34·51
	Jessore ...	Jessore ...	20	0·16	0·04	0·65	2·84	3·43	8·21	9·85	14·09	4·57	0·61	0·06	0·74	45·25
		Narail ...	...	0·80	1·80	0·58	3·32	6·00	7·37	14·02	21·99	10·05	0·78	...	0·26	66·97
		Khoolna ...	...	...	0·30	0·75	4·97	5·20	10·60	14·44	16·17	6·22	0·60	0·21	0·40	59·86
		Jhenidah ...	...	...	...	0·90	3·51	3·32	4·75	11·36	14·31	4·22	0·60	...	...	42·97
		Bagirhat ...	...	...	...	1·08	2·05	3·22	7·61	14·18	14·89	6·44	0·66	0·26	0·77	56·16
		Magoora ...	...	....	...	0·54	7·10	2·96	6·03	13·32	10·63	7·92	0·48	0·47	...	49·45
Rajshahye.	Moorshedabad ...	Berhampore ..	64	0·20	0·01	1·50	0·68	0·70	3·01	9·71	10·30	4·96	0·42	0·02	...	31·51
		Rampore Haut ...	...	...	...	2·16	0·29	0·76	2·40	11·29	8·35	3·46	...	...	...	28·71
		Moorshedabad City	...	0·14	0·11	1·21	0·61	0·10	2·03	9·19	8·37	5·03	0·28	0·17	...	27·24
		Jungypore ...	...	0·83	0·04	0·71	0·72	1·59	5·49	11·04	8·88	6·70	1·14	0·28	0·06	37·48
		Azimgunge ...	...	0·13	0·20	1·63	1·07	0·20	3·46	11·82	12·72	3·55	...	0·60	...	35·38
		Lalgolla ..	...	?	0·02	1·66	0·72	0·87	5·44	13·69	9·46	6·52	0·03	1·10	0·10	41·61 ?
	Dinagepore ...	Dinagepore ...	...	0·50	0·28	0·61	0·66	0·41	18·27	8·24	12·62	1·62	...	...	0·32	43·53
	Maldah ...	Maldah ...	160	0·45	...	0·29	1·19	0·06	4·36	7·08	7·76	4·91	0·92	...	0·24	27·26
		Chanchal ...	...	?	?	?	?	?	?	?	2·09 ?	4·31	...	...	0·33	?
	Rajshahye ...	Baulcah ...	110	0·48	0·15	1·49	1·09	0·31	6·90	6·73	11·27	3·12	0·32	0·27	0·01	32·14
		Nattore ...	...	0·51	...	1·05	3·95	1·42	7·79	9·05	13·60	6·08	0·14	0·15	0·10	43·88

TABLE XXIX.—RAINFALL IN 1873.—(*Continued.*)

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	BENGAL.															
	Central Districts.—(Continued.)															
Rajshahye.—(*Contd.*)	Rungpore	Rungpore	...	0·05	0·24	0·90	8·24	1·97	13·09	3·93	14·11	2·63	...	...	0·38	44·64
		Bhowanigunge	...	...	...	1·31	4·85	0·87	12·73	7·84	12·34	7·18	0·16	...	0·71	47·99
		Titalya	...	...	0·20	0·30	1·70	5·37	2·32	23·64	17·42	17·30	14·47	...	...	...	82·72
	Bogra	Bogra	...	...	0·22	0·12	0·47	3·12	2·01	6·74	7·95	12·83	3·20	...	...	0·38	37·13
	Pubna	Pubna	...	...	0·06	0·11	0·80	7·13	3·14	5·98	15·51	7·19	4·81	0·45	...	0·03	45·26
		Sorajgunj	...	...	0·17	0·20	1·62	0·80	3·24	6·30	9·39	8·55	4·33	0·53	..	0·20	35·33
Cooch Behar.	Darjeeling	Darjeeling	...	6,912	...	0·27	1·45	6·10	5·08	12·76	22·46	18·66	10·36	0·02	...	...	77·16
	Julpigooree	Julpigooree	...	...	0·05	0·05	0·75	7·48	2·67	28·93	15·68	13·79	18·76	...	...	0·15	88·31
		Fallacotta	...	...	0·14	0·04	1·30	11·43	4·95	37·92	19·25	21·96	7·92	1·50	...	...	106·39
		Bodah	...	...	...	0·50	0·99	5·87	3·37	22·42	12·02	14·67	7·28	...	...	0·56	67·68
	Cooch Behar Tributary States	Cooch Behar	...	...	...	...	1·46	7·72	3·53	51·64	22·93	18·11	10·16	...	...	...	115·55
	Bhutan Dooars	Buxa	...	1,800	0·44	0·46	1·99	3·59	3·25	62·26	35·76	35·48	32·41	...	...	0·35	175·99
	Eastern Districts.																
Dacca.	Dacca	Dacca	...	35	...	0·05	1·20	5·60	4·55	9·50	16·60	17·22	3·96	0·30	0·86	...	59·24
		Moonsheegunge	...	...	...	...	2·34	5·63	5·83	11·99	17·23	16·25	4·46	0·46	...	...	64·19
		Manickgunge	...	...	...	...	0·26	6·33	3·71	4·79	10·21	15·87	6·66	0·31	...	...	48·14
	Furreedpore	Furreedpore	...	...	...	1·40	0·43	8·10	5·20	5·14	7·85	11·53	10·90	...	0·02	...	50·57
		Goalundo	...	...	...	...	0·20	4·21	4·15	5·76	10·43	10·89	6·09	0·30	0·05	0·15	42·23
	Backergunge	Burrisal	...	...	0·59	...	1·12	2·82	5·28	7·67	16·42	17·29	7·86	1·96	0·30	0·80	62·11
		Perozopore	...	...	...	...	1·45	2·36	6·63	9·45	14·87	13·14	6·88	1·21	0·63	0·56	57·18
		Madareepore	...	...	0·05	...	0·64	5·51	10·67	6·71	13·35	16·26	6·40	1·29	0·33	0·07	61·28
		Patooakhally	...	...	...	...	0·10	6·30	11·06	14·54	24·25	17·76	10·85	4·76	0·49	1·40	91·71
		Dowlatkhan	...	...	0·22	...	2·20	3·56	7·55	7·20	30·95	30·51	9·76	7·77	1·40	1·02	102·08
	Mymensingh	Mymensingh	...	...	0·10	0·10	0·85	3·70	3·23	21·82	10·42	16·88	4·02	0·27	...	0·61	62·00
		Jamalpore	...	...	...	0·30	1·50	5·32	4·16	9·04	10·64	11·52	5·83	0·25	0·13	1·05	49·74
		Atia	...	...	0·24	0·01	0·41	3·34	4·62	6·16	14·86	9·12	5·04	0·36	0·05	0·20	44·41
		Kishoregunge	...	...	0·20	0·16	0·60	3·99	5·72	16·97	13·89	15·30	8·14	2·46	0·51	3·15	71·09
	Sylhet	Sylhet	...	...	0·33	1·67	5·30	11·55	5·12	34·14	23·99	25·94	17·45	0·75	0·38	0·07	126·79
	Cachar	Silchar	...	89	1·04	2·50	7·48	5·57	6·80	22·42	23 81	13·63	10·72	8·13	0·87	0·39	103·36
		Hylakandi	...	...	2·50	2·43	7·88	4·50	7·54	18·49	13·19	13·00	10·32	8·31	...	0·53	88·78
		Koyah	...	...	0·47	0·78	4·77	3·53	5·67	20·92	14·48	20·13	9·58	5·49	0·25	1·00	87·07
Chittagong.	Chittagong	Chittagong	...	90	0·35	...	...	5·71	5·34	21·29	19·36	18·49	10·95	3·95	0·23	0·72	86·39
		Cox's Bazar	...	...	0·90	...	...	6·81	8·54	34·18	56·35	23·02	15·64	8·90	0·49	...	162·83
	Noakholly	Noakholly	...	...	0·01	...	4·83	8·95	9·00	19·30	28·30	26·84	11·61	7·38	1·25	1·34	118·90
	Tipperah	Comillah	...	...	...	0·05	1·71	5·53	6·38	18·14	9·72	25·05	4·64	0·55	0·34	0·78	73·49
		Brahmunberiah	...	...	0·02	0·28	0·89	7·06	5·23	19·59	6·66	8·66	3·95	3·08	0·12	0·33	56·77
	Chittagong Hill Tracts	Rungamatee Hill	...	...	0·40	...	0·10	3·96	4·94	16·09	13·95	10·27	9·10	4·94	0·04	0·03	73·73
	Hill Tipperah	Hill Tipperah	...	...	0·29	0·07	1·69	6·87	5·35	11·35	5·27	18·23	7·23	1·12	0·42	0·57	58·46
	Arakan	Akyab	...	21	0·64	...	...	3·73	11·52	50·38	65·50	37·18	27·13	15·36	0·64	0·02	212·10
	Andamans	Port Blair	...	61	...	3·50	0·25	1·03	12·27	29·26	17·43	10·52	17·16	12·43	7·48	3·38	114·71
	Nicobars	Nancowry	...	98	?	?	?	?	6·64	17·56	11·50	12·64	10·72	10·98	14·43	9·00	?
	BEHAR.																
Patna.	Patna	Patna	...	179	0·19	0·02	0·80	0·10	0·13	3·41	13·04	11·78	0·94	...	...	0·13	30·54
		Behar	...	...	0·55	...	0·42	0·10	0·10	2·40	18·01	13·62	1·99	...	0·05	0·14	35·28
		Barh	...	...	0·11	0·05	0·60	0·09	0·60	3·30	12·17	14·62	1·04	...	0·12	...	33·30
		Dinapore	...	...	0·21	...	0·30	0·35	0·40	3·80	16·70	11·70	0·70	0·20	...	...	34·36
		Dehree	...	362	0·01	...	0·25	...	...	0·50	18·94	7·46	3·28	...	...	0·10	30·54
	Gya	Gya	...	347	0·17	...	0·94	...	0·30	1·52	18·44	10·01	4·13	...	...	0·06	35·57
		Nowadah	...	...	0·32	...	0·42	...	0·60	1·02	27·31	10·02	3·32	...	0·13	0·15	43·29
		Aurungabad	...	...	0·12	...	0·62	0·16	1·36	0·32	20·52	8·05	1·89	...	...	0·11	33·15
		Jehanabad	...	...	0·10	...	0·59	...	0·68	2·69	24·69	8·46	1·43	...	...	0·12	38·75

TABLE XXIX.—RAINFALL IN 1873.—(*Continued.*)

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Behar.—(*Contd.*)															
Patna.—(*Continued.*)	Shahabad	Arrah	191	0·32	0·06	1·06	...	0·70	1·91	19·76	16·91	3·00	...	...	0·08	37·80
		Sasseram	...	...	0·11	0·56	...	0·65	1·70	22·61	7·62	1·67	...	...	...	34·91
		Buxar	...	0·40	0·10	0·63	...	0·23	1·15	10·00	8·10	1·60	...	...	0·15	22·38
		Bhubooah	...	...	...	5·50	...	0·36	0·21	16·80	10·39	3·45	...	...	...	36·71
	Tirhoot	Mozufferpore	...	...	2·20	...	2·20	0·60	...	3·99	10·11	7·11	2·82	...	...	0·03	29·06
		Durbhunga	...	...	0·02	...	1·43	0·90	0·16	3·89	7·04	7·24	2·78	...	...	0·42	23·88
		Hajeepore	...	...	0·15	...	0·80	0·18	0·80	5·19	14·60	12·40	1·24	...	...	0·18	35·54
		Mudhoobunnee	...	...	0·18	0·07	2·57	1·04	0·25	4·38	8·66	4·93	5·59	...	...	0·04	27·65
		Seetamurhee	...	...	0·20	...	2·30	0·45	0·40	9·35	12·90	8·00	3·50	...	...	0·50	36·60
		Tajpore	...	...	0·25	...	2·16	0·79	...	4·80	10·21	9·53	3·25	...	...	...	30·99
	Sarun	Chuprah	182	0·29	...	1·70	1·00	...	3·42	15·57	10·80	1·10	...	...	...	33·88
		Sewan	...	...	0·34	0·06	0·72	0·25	1·33	4·80	16·31	8·34	1·14	..	...	0·08	33·37
	Chumparun	Motiharee	...	...	0·90	...	3·00	0·80	0·90	8·02	15·14	11·58	0·73	...	...	0·20	41·24
		Bettiah	..	...	...	0·25	3·80	...	2·00	10·06	8·03	9·05	0·30	...	...	0·25	32·94
Bhagulpore.	Monghyr	Monghyr	160	0·34	0·02	1·07	0·18	1·12	2·63	13·30	15·32	3·68	...	0·02	0·04	37·72
		Begoo Serai	...	0·34	...	0·20	0·76	0·83	1·98	11·22	16·11	4·01	...	0·10	0·03	35·58
		Jamooee	...	...	0·73	...	0·50	...	0·70	4·20	23·50	10·05	3·49	...	...	0·11	43·28
	Bhagulpore	Bhagulpore	146	0·40	...	0·00	0·60	0·15	5·37	11·07	6·68	3·67	...	0·06	0·32	28·92
		Soopoot	...	...	...	...	1·67	1·08	0·15	4·47	6·74	8·03	4·59	...	...	0·21	26·94
		Muddehpoora	...	...	...	...	1·00	0·75	0·50	6·34	9·15	13·50	3·30	...	...	0·10	34·64
	Purneah	Banka	...	...	0·70	...	0·37	0·80	1·16	5·55	14·20	6·76	6·74	0·14	...	0·17	36·59
		Sanborsa	...	...	0·10	...	0·58	1·18	2·20	3·51	5·45	13·11	1·99	0·33	...	0·04	28·49
		Purneah	...	...	0·27	...	0·82	2·56	0·44	6·34	10·98	10·60	5·75	...	...	0·37	39·13
		Kissengunge	...	...	...	0·03	0·36	1·55	1·37	8·81	15·12	6·96	3·49	...	...	0·69	38·88
		Arrareah	...	...	...	...	2·00	2·16	0·51	5·75	7·99	10·60	5·19	...	...	0·02	34·22
	Sonthal Pergunnahs.	Deoghur	...	...	0·29	...	1·70	1·60	0·41	4·71	20·95	7·69	7·87	0·02	...	0·04	44·98
		Jamtara	...	...	...	...	0·45	0·42	0·07	?	19·03 ?	10·80	3·50	...	...	?	34·27 ?
		Rajmehal	...	...	...	...	0·20	1·75	...	1·96	9·25	6·90	4·00	...	...	0·20	24·28
		Pakour	...	...	...	...	0·40	...	...	?	?	?	?	?	?	?	0·40 ?
		Moheshpore	...	...	?	?	?	?	?	0·79 ?	8·37	12·48	3·60 ?	?	...	?	25·24 ?
		Nya Doomka	...	...	0·26	...	1·54	0·14	2·14	5·47	19·95	13·70	9·64	...	0·06	0·01	52·91
		Godda	...	...	0·62	...	0·40	0·91	1·10	4·60	8·20	11·00	7·18	...	...	0·12	34·13
	Orissa.																
Orissa.	Cuttack	Cuttack	80	...	...	2·71	1·60	4·12	2·98	10·55	10·07	6·27	2·54	0·35	0·36	38·61
		Jajpore	...	...	...	...	1·10	1·35	5·40	1·50	7·50	8·96	4·30	4·50	0·22	1·05	35·88
		Kendraparah	..	...	...	...	0·60	1·30	7·20	5·90	9·90	20·90	6·70	5·00	0·03	0·10	57·63
		Jagatsingpore	...	...	0·76	...	1·61	1·65	1·89	3·37	8·58	10·39	6·92	6·21	?	?	41·38 ?
		False Point	...	18	...	...	0·05	1·75	3·95	2·00	13·50	10·55	6·55	20·50	1·50	1·25	61·60
	Pooree	Pooree	...	15	...	...	1·11	0·85	4·19	2·58	8·51	15·81	9·21	12·53	1·19	1·74	57·72
		Khoordah	...	...	0·08	...	0·54	0·42	2·39	4·52	13·82	13·75	10·01	3·51	0·41	0·59	50·04
	Balasore	Balasore	...	15 ?	...	...	0·92	1·77	4·58	3·64	12·90	11·77	7·61	4·69	0·77	0·60	48·35
		Bhuddruck	...	...	...	...	...	0·92	4·65	3·04	5·04	13·11	5·50	3·00	0·33	0·07	35·66
		Jellasore	...	...	?	?	?	1·02	0·98	6·57	16·16	16·24	6·64	0·44	...	...	48·05 ?
		Soorah	...	...	?	?	?	...	0·47	5·02	9·25	14·12	5·85	1·84	1·07	0·24	37·86 ?
		Chandbally	...	...	?	?	?	0·65	2·92	3·72	4·81	12·10	4·88	0·17	0·33	...	35·58 ?
	Cuttack Tributary Mehals	Sumbulpore	...	451	...	...	1·35	...	0·36	3·78	29·59	9·61	4·91	1·67	...	...	51·25
	Chota Nagpore.																
	South-Western Frontier Agency.																
	Hazareebagh	Hazareebagh	1994	...	...	0·94	0·11	0·22	2·20	23·03	29·32	12·07	0·15	...	0·16	59·14
		Pachumba	...	...	...	...	1·17	0·90	0·74	4·51	22·58	15·39	6·05	0;25	0·25	0·65	51·85

TABLE XXIX.—RAINFALL IN 1873.—(*Concluded.*)

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Chota Nagpore.																
South-Western Frontier Agency.—(Continued.)																
	Lohardugga ...	Ranchee ...	...	...	0·04	1·59	0·50	1·21	2·26	17·59	13·93	12·20	0·63	...	...	49·95
		Palamow ...	...	...	...	0·60	...	1·54	2·51	20·71	9·30	5·05	...	...	0·96	40·67
	Chybassa ...	Chybassa ...	...	0·19	...	2·32	1·65	2·66	3·42	11·47	10·01	5·94	0·88	...	0·25	38·79
	Manbhoom ...	Purulia ...	...	...	...	2·36	1·78	1·17	1·70	19·33	12·50	3·01	0·15	...	...	42·00
		Govindpore ...	...	...	...	1·90	1·40	0·50	2·73	21·73	11·41	9·95	...	...	...	49·62
Assam and Adjacent Hills.																
	Goalparah ...	Goalparah ...	386	...	...	2·42	10·29	7·85	21·40	10·84	8·32	7·09	...	...	0·12	68·33
		Dhoobree ...	...	...	...	1·85	6·20	7·80	30·27	22·05	14·40	8·95	0·10	...	0·65	92·27
	Kamroop ...	Gowhatty ...	...	0·11	0·53	2·97	5·96	7·91	10·57	9·94	6·78	4·92	0·32	...	...	50·01
		Burpettah ...	...	0·30	.A	2·08	10·22	7·09	12·18	23·02	10·21	5·68	...	...	...	70·78
	Durrung ...	Tezpore ...	...	0·40	0·71	2·57	4·88	6·82	16·83	18·74	6·36	6·92	1·66	...	...	65·89
		Mungledye ...	...	0·33	1·31	3·21	5·55	9·30	13·23	11·44	3·90	5·40	0·30	...	...	53·97
	Nowgong ...	Nowgong ...	...	0·05	0·93	2·38	4·12	6·07	12·64	25·27	11·79	7·31	0·05	...	...	70·61
	Seebsaugor ...	Seebsaugor ...	...	1·21	2·56	7·77	7·93	9·33	12·32	10·76	10·19	9·84	1·17	...	0·19	73·27
		Golaghat ...	...	0·67	1·59	4·06	5·81	7·20	13·27	20·89	5·78	5·24	2·28	...	0·24	67·03
		Jorehaut ...	...	1·06	2·43	4·77	5·18	3·66	8·16	16 66	6·21	9·72	1·34	...	0·38	59·57
		Nazeerah ...	...	0·97	4·30	5·96	7·28	6·76	15·24	11·01	12·15	10·58	0·87	...	0·23	75·35
	Luckimpore ...	Debrooghur ...	...	0·85	4·15	3·47	8·22	8·95	18·18	20·13	14·63	8·69	3·45	0·07	0·21	91·00
		North Luckimpore	...	0·80	2·20	2·70	6·17	6·99	26·21	25·17	10·90	14·55	2·84	...	0·49	99·02
		Sudyah ...	...	1·63	3·95	3·65	7·26	8·29	13·17	11·66	21·32	10·74	0·19	0·62	0·95	83·43
	Naga Hills ...	Samoogoodting ...	...	0·48	1·28	1·78	5·78	2·94	7·65	12·41	6·00	3·33	2·21	...	0·33	44·19
	Khasi and Jynteah Hills ...	Shillong ...	4,825	...	0·52	2·43	5·30	5·84	13·44	6·19	13·15	5·74	0·76	0·20	...	53·57
		Jaowai ...	...	...	...	2·70	2·60	5·97	2·97	28·44	9·75	14·07	4·53	2·45	...	73·48
		Cheerapoonjee ...	4,460	0·21	4·14	11·45	17·94	13·36	88·82	71·04	52·71	21·73	0·97	...	0·63	283·00
	Garo Hills ...	Tura ...	...	0·43	0·34	3·23	9·59	5·71	24·91	17·26	13·89	10·00	0·62	...	0·45	86·43
Other Provinces.																
	N.-W. Provinces ...	Benares ...	263	...	...	0·22	...	0·41	0·32	19·01	11·17	4·96	...	...	...	36·09
		Goruckpore ...	255	...	...	0·11	...	0·50	8·90	12·30	14·30	2·50	...	...	0·30	38·91
		Jhansi ...	836	...	...	...	...	...	0·70	11·80	18·19	13·55	...	...	...	44·95
		Allahabad ...	289	0·14	0·54	0·52	...	...	...	16·48	7·22	7·90	...	...	...	32·80
		Lucknow ...	364	...	0·30	...	...	0·92	0·51	13·40	8·42	11·13	...	...	...	34·68
		Agra ...	551	0·04	0·04	0·45	...	1·25	1·89	16·00	17·12	9·58	...	...	...	46 37
		Ajmere ...	...	0·15	...	...	...	1·77	1·71	9·13	5·82	2·58	...	...	0·11	21·27
		Bareilly ...	570	0·55	0·10	0·55	...	0·95	0·45	17·80	4·85	9·45	...	...	...	34·70
		Meerut ...	739	0·40	...	0·90	...	0·98	0·20	11·32	6·25	7·89	0·92	...	0·55	29·41
		Roorkee ...	880	1·00	...	0·32	...	1·23	0·19	16·52	10·47	15·61	...	0·08	0·46	45·88
	Central India ...	Jubbulpore ...	1,353	...	0·49	0·24	...	0·76	0·93	17·64	11·67	14·24	...	...	0·21	46·18
		Nagpore ...	1,025	...	1·02	0·70	0·35	0·58	4·80	6·03	8·02	9·11	...	...	0·02	30·63
		Saugor ...	1,860	1·08	...	0·18	...	0·23	1·15	10·22	11·00	17·75	...	...	...	41·61
		Hoshungabad ...	1,030	0·60	...	...	...	0·10	1·00	10·40	10·40	19·60	...	...	...	42·10
		Chanda ...	690	...	...	0·03	...	2·38	3·09	12·64	12·49	7·68	...	...	0·02	38·33
		Raipore ...	977	...	0·02	0·46	...	0·48	5·00	11·55	10·20	7·08	0·27	...	0·10	35·16
		Seoni ...	2,030	...	0·95	1·05	0·63	1·22	3·78	11·60	7·79	14·47	...	...	1·04	42·53
	Berars ...	Akola ...	930	0·09	0·36	0·15	...	0·28	5·08	5·84	7·44	4·28	...	0·52	?	...
		Omraoti ...	1,162	0·14	0·79	...	...	1·34	6·94	7·62	8·28	7·19	...	...	?	...
	Madras ...	Vizagapatam ...	31	...	...	...	0·10	3·60	1·90	9·20	10·20	3·70	17·60	1·50	4·40	52·20
		Madras ...	27	0·01	6·28	...	1·37	0·02	1·95	2·23	2·93	2·80	10·59	12·98	9·67	50·83
	Ceylon ...	Jaffna ...	9	0·60	5·98	0·23	3·78	1·81	...	...	1·39	1·77	11·97	18·52	4·48	50·58
		Trincomallee ...	175	0·58	7·42	1·24	9·36	4·81	...	3·15	2·17	2·86	8·55	13·36	7·25	60·75
		Colombo ...	42	0·04	4·30	7·23	6·98	25·94	6·59	4·41	2·07	1·32	11·98	9·56	5·20	85·62
		Galle ...	40	0·48	8·06	5·69	6·28	12·52	8·13	4·69	2·32	0·79	5·87	12·21	6·75	73·79

TABLE XXX.—DAYS ON WHICH RAIN WAS MEASURED IN 1873.

Divisions.	Districts.	Stations.	January.	February.	March.	April	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Bengal.														
	Western Districts.														
Burdwan.	Burdwan	Burdwan	...	...	4	6	5	10	25	17	10	1	1	1	80
		Cutwa	...	1	5	5	5	5	21	16	10	3	2	...	73
		Culna	...	...	3	5	5	5	21	16	6	2	...	...	63
		Bood-bood ...	...	...	4	3	4	8	22	16	8	2	1	1	69
		Raneegunge ...	1	1	5	2	3	10	29	21	10	2	2	...	86
		Jehanabad ...	...	...	3	4	7	11	22	24	10	3	...	1	85
	Bankoora	Bankoora	...	...	4	2	4	12	20	22	13	1	2	1	81
	Beerbhoom	Soory	1	...	4	2	5	7	25	21	14	1	2	...	82
	Midnapore	Midnapore	1	...	2	4	6	11	27	22	12	1	1	1	88
		Tumlook	1	...	2	5	6	10	24	13	8	1	2	2	74
		Gurbetta	...	...	5	4	8	9	24	24	11	1	1	1	88
		Contai	...	...	1	3	6	5	16	16	11	4	2	2	66
	Hooghly	Hooghly	...	...	1	6	10	6	23	19	12	1	1	1	80
		Serampore	1	...	2	4	7	7	25	21	16	1	1	1	86
	Howrah	Howrah	1	...	2	4	10	14	28	27	15	3	4	2	110
	Central Districts.														
Presidency.	24-Pergunnahs ...	Saugor Island	...	...	2	3	7	8	22	23	11	5	4	4	89
		Calcutta	...	...	3	5	9	10	26	24	13	4	3	1	98
		Alipore	...	...	3	6	6	6	28	22	14	4	1	1	91
		Busseerhat	...	...	2	3	9	8	21	12	11	2	1	...	67
		Baraset	...	1	3	3	8	9	26	21	13	2	3	1	90
		Diamond Harbour ...	1	...	1	5	8	8	25	22	12	3	2	1	88
		Barripore	...	...	1	5	4	8	28	24	11	2	5	1	89
		Satkhira	1	...	1	4	8	8	27	17	13	1	4	1	85
		Barrackpore	1	...	2	3	6	9	24	14	11	1	1	1	73
		Dum-Dum	...	...	2	3	6	12	26	18	14	1	4	1	87
	Nuddea	Kishnaghur	...	...	4	7	8	10	21	17	13	2	1	...	83
		Bongong	1	...	2	6	8	6	16	15	10	2	...	...	66
		Meherpore	...	1	4	6	10	11	25	14	11	4	1	...	87
		Chooadangah	...	...	5	5	7	8	25	20	14	3	2	...	89
		Kooshtea	1	1	3	7	7	10	16	16	11	3	...	1	76
		Ranaghat	...	..	2	5	7	9	19	16	9	1	...	...	68
	Jessore	Jessore	2	1	3	6	10	14	25	21	14	2	2	2	102
		Narail	1	2	1	7	9	11	23	20	15	3	...	1	93
		Khoolna	...	1	2	9	10	10	27	21	11	2	3	1	97
		Jhenidah	...	...	2	6	6	7	19	20	13	2	...	...	75
		Bagirhat	...	...	2	3	8	13	27	19	11	3	3	3	92
		Magoorah	...	...	2	8	11	13	26	22	14	1	2	...	99

TABLE XXX.—DAYS ON WHICH RAIN WAS MEASURED IN 1873.—(*Continued.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Bengal.—(*Continued.*)														
	Central Districts.—(Continued.)														
Rajshahye.	Moorshedabad ...	Berhampore	2	1	4	5	4	9	18	18	12	2	1	...	76
		Rampore Haut	...	...	3	1	2	9	15	12	6	...	...	...	48
		City Moorshedabad ...	2	1	5	3	3	12	22	19	14	2	1	...	84
		Jungypore	2	1	4	1	3	10	20	18	16	2	1	1	79
		Azimgunge	2	1	4	2	1	6	21	18	6	...	1	...	62
		Lalgolla	?	1	5	2	4	9	18	15	8	1	1	1	65 ?
	Dinagepore... ...	Dinagepore	1	1	4	5	4	16	12	17	5	...	...	1	66
	Maldah	Maldah	3	...	3	1	2	12	21	16	12	1	....	1	72
		Chanchal	?	?	?	?	?	?	?	7	12	...	...	1	20 ?
	Rajshahye	Bauleah	2	1	4	5	5	15	19	18	11	1	1	1	83
		Nattore	2	...	3	6	2	11	14	15	10	1	1	1	66
	Rungpore	Rungpore	1	1	1	7	2	16	17	21	10	...	...	1	77
		Bhowanigunge	...	...	1	5	3	11	13	15	11	1	...	1	61
		Titalya	1	2	2	11	7	14	17	21	18	...	...	...	93
	Bogra	Bogra	1	1	2	6	7	15	22	20	9	...	...	2	85
	Pubna	Pubna	1	2	3	9	10	10	23	20	15	4	...	2	99
		Serajgunj	2	2	3	1	5	11	23	10	12	1	...	1	71
Cooch Behar.	Darjeeling	Darjeeling	...	3	5	19	17	20	27	26	27	1	...	...	145
	Julpigoree	Julpigoree	1	1	1	10	6	20	23	17	19	...	...	1	99
		Fallacotta	1	1	3	12	10	21	26	18	18	2	...	...	112
		Bodah	...	1	1	6	4	14	17	16	12	...	...	2	73
	Cooch Behar Tributary State	Cooch Behar	...	...	2	14	6	23	21	20	16	...	...	...	102
	Bhutan Dooars ...	Buxa	3	2	4	10	7	25	23	19	21	...	...	1	115
	Eastern Districts.														
Dacca.	Dacca	Dacca	...	1	4	9	7	14	29	24	12	2	3	...	105
		Moonsheegunge... ...	...	...	4	9	8	16	27	18	10	2	...	...	94
		Manickgunge	...	...	2	7	10	11	16	21	8	2	...	...	77
	Furreedpore ...	Furreedpore	...	1	2	9	9	10	19	20	12	...	1	...	83
		Goalundo	...	...	1	7	8	7	18	19	9	2	1	1	73
	Backergunge ...	Burrisal	1	...	3	10	12	17	28	26	15	3	2	2	119
		Perozepore	...	...	2	6	11	13	26	21	15	5	5	1	105
		Madareepore	1	...	2	5	12	15	21	25	10	4	2	1	98
		Patooakhally	...	...	2	7	12	17	30	23	15	7	2	2	117
		Dowlatkhan	1	...	3	4	6	15	24	23	15	6	2	2	101
	Mymensingh ...	Mymensingh	1	1	4	8	8	16	18	19	14	1	...	1	91
		Jamalpore	...	1	3	7	7	9	12	19	10	1	1	2	72
		Atia	2	1	2	10	8	15	23	22	14	1	1	2	101
		Kishoregunge	1	2	4	10	10	16	23	24	16	4	1	1	112
	Sylhet	Sylhet	3	3	11	18	12	26	23	24	18	4	2	1	145
	Cachar	Silchar	3	6	13	16	10	25	26	25	21	11	3	2	161
		Hylakandi	4	6	13	11	12	25	22	25	20	7	...	1	146
		Koyah...	3	3	11	8	11	16	19	18	15	9	1	4	118

TABLE XXX.—DAYS ON WHICH RAIN WAS MEASURED IN 1873—(*Continued.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Bengal.—(*Concluded.*)														
	Eastern Districts.—(Continued.)														
Chittagong.	Chittagong	Chittagong	2	...	...	7	8	13	25	22	19	8	2	4	110
		Cox's Bazar	1	...	...	5	9	24	30	19	16	10	2	...	116
	Noakholly	Noakholly	1	...	4	10	9	21	30	26	21	10	3	4	139
	Tipperah	Comillah	...	1	5	8	10	20	25	21	9	5	1	2	107
		Brahmunbariah	1	3	3	12	8	22	21	23	15	3	1	1	113
	Chittagong Hill Tracts	Rangamatee Hill ...	1	...	4	8	8	19	22	19	16	10	1	4	112
	Hill Tipperah ...	Hill Tipperah	1	1	8	10	7	20	26	24	18	3	3	3	124
	Arakan	Akyab	1	...	...	3	7	26	30	28	23	10	3	1	132
	Andamans	Port Blair	...	4	4	8	13	30	28	18	23	22	9	8	167
	Nicobars	Nancowry	?	?	?	?	17	21	13	15	15	19	16	6	?
	Behar.														
Patna.	Patna	Patna	3	1	1	1	2	8	15	14	5	...	...	2	52
		Behar	3	...	4	1	1	7	15	15	9	...	1	1	57
		Barh	1	1	4	1	1	8	20	11	2	...	1	...	50
		Dinapore	1	...	2	1	2	6	13	10	3	1	...	...	39
	Gya	Gya	2	...	2	...	2	4	21	15	7	...	...	1	54
		Nowadah	2	...	3	...	2	4	16	12	6	...	1	1	47
		Aurungabad	1	...	2	1	2	1	18	12	5	...	...	1	43
		Jehanabad	1	...	3	...	3	5	21	12	7	...	...	2	54
	Shahabad	Arrah	2	1	4	...	2	8	19	13	7	...	...	1	57
		Sasseram	...	1	2	...	2	6	20	17	10	...	...	...	58
		Buxar	4	1	2	...	1	4	17	10	3	...	...	1	43
		Bhubooah	...	...	3	...	2	2	16	13	8	...	...	...	44
	Tirhoot	Mozufferpore	2	...	3	1	...	4	14	14	8	...	...	1	47
		Durbhunga	1	...	3	1	1	7	13	15	8	...	...	1	50
		Hajeepore	1	...	3	1	1	7	14	18	8	...	...	2	55
		Mudhoobunnee	1	1	4	2	1	5	9	10	4	...	...	1	38
		Seetamurhee	1	...	1	3	2	6	11	5	5	...	...	1	35
		Tajpore	2	...	4	2	...	6	14	15	11	...	...	...	54
	Sarun	Chuprah	2	...	2	1	...	6	14	12	4	...	...	...	41
		Sewan	3	2	2	2	2	7	21	14	6	...	...	2	61
	Chumparun ...	Motiharee	2	...	3	2	2	9	16	13	5	...	...	1	53
		Bettiah	...	1	2	...	1	8	12	13	2	...	...	1	40
Bhagulpore.	Monghyr	Monghyr	3	1	4	2	2	10	18	17	7	...	1	1	66
		Begoo Serai	2	...	1	1	1	7	22	14	10	...	1	1	60
		Jamooee	2	...	3	...	2	6	18	12	5	...	...	1	49
	Bhagulpore ...	Bhagulpore	2	...	2	2	2	9	21	15	13	...	1	2	69
		Soopool	...	...	3	4	2	5	15	18	11	...	...	1	59
		Muddehpoora	...	...	3	1	1	6	11	13	6	...	...	1	42
		Banka	1	...	2	1	3	7	20	18	14	1	...	1	68
		Sanborsa	3	...	3	3	2	4	16	16	9	1	...	1	58

TABLE XXX.—DAYS ON WHICH RAIN WAS MEASURED IN 1873—(*Continued.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Behar.—(*Continued.*)														
Bhagulpore.—(*Continued.*)	Purneah	Purneah	1	...	2	6	2	8	20	21	11	...	...	1	72
		Kissengunge	...	1	2	3	3	8	19	17	13	...	...	2	68
		Arrareah	...	...	3	3	2	9	14	18	6	...	...	1	56
	Sonthal Pergunnahs	Deoghur	2	...	3	6	2	11	24	18	15	1	...	1	83
		Jamtara	...	...	1	2	2	?	18	17	8	...	...	...	48 ?
		Rajmehal	...	...	1	2	...	7	13	10	6	...	...	1	40
		Moheshpore	?	?	?	?	?	4	22	17	12	?	?	?	55 ?
		Nya Doomka	2	...	4	1	5	12	25	19	16	...	1	1	86
		Godda	2	...	1	3	2	9	15	18	12	...	...	1	63
	Orissa.														
Orissa.	Cuttack	Cuttack	...	...	4	2	7	7	23	21	15	6	5	4	94
		Jajpore	...	...	2	2	7	3	13	14	5	3	3	1	53
		Kendraparah	...	...	2	1	5	5	10	18	9	3	1	1	55
		Jagatsingpore	2	...	3	3	4	5	18	15	12	8	?	?	70 ?
		False Point	...	...	1	4	4	3	15	16	8	7	3	4	65
	Pooree	Pooree...	...	...	2	4	4	9	17	23	9	10	6	5	89
		Khoordah	3	...	4	5	8	7	27	24	16	10	5	2	111
	Balasore	Balasore	...	...	1	2	4	4	14	19	10	5	3	2	64
		Bhuddruck	...	...	...	1	4	10	16	21	11	3	5	1	72
		Jellasore	?	?	?	1	3	6	20	14	10	2	...	...	56 ?
		Sorah	?	?	?	...	2	5	16	20	8	4	3	2	60 ?
		Chandbally	?	?	?	1	4	6	14	17	10	2	2	...	56
	Cuttack Tributary Mehals	Sumbulpore	...	...	3	...	3	7	23	14	12	2	...	...	64
	Chota Nagpore.														
	South-Western Frontier Agency.														
	Hazareebagh ...	Hazareebagh	...	...	6	3	2	11	25	22	18	1	...	1	89
		Pachumba	...	...	3	2	3	10	24	23	11	1	1	1	79
	Lohardugga ...	Ranchee	...	1	5	3	6	9	26	28	21	2	...	...	101
		Palamow	...	...	2	...	5	7	21	14	7	...	...	1	57
	Chybassa	Chybassa	1	...	6	5	6	14	25	21	14	2	...	1	95
	Manbhoom	Purulia	...	...	6	5	3	6	24	19	10	2	...	...	75
		Govindpore	...	...	2	2	1	8	21	18	11	...	...	...	63
	Assam and Adjacent Hills.														
	Goalpara	Goalpara	...	...	4	17	9	23	27	20	17	...	...	2	119
		Dhoobree	...	...	3	9	8	22	14	17	6	1	...	1	81
	Kamroop	Gowhatty	1	1	4	13	11	19	20	11	10	1	...	...	91
		Burpettah	2	...	4	17	10	21	20	11	13	...	...	...	98
	Durrung	Tezpore	3	5	7	18	18	23	18	15	13	2	...	...	122
		Mungledye	3	4	7	20	16	22	22	17	14	1	...	...	126

TABLE XXX.—DAYS ON WHICH RAIN WAS MEASURED IN 1873.—(*Concluded.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Assam and Adjacent Hills.—(*Continued.*)														
	Nowgong	Nowgong	1	4	7	12	15	21	23	20	12	2	...	...	117
	Seebsaugor	Seebsaugor	5	8	11	18	15	22	22	18	17	6	...	1	143
		Golaghat	4	7	13	19	12	20	20	19	12	9	...	4	139
		Jorehaut	2	8	9	20	14	22	25	19	18	6	...	2	145
		Nazeerah	6	9	17	23	15	23	23	16	22	9	...	2	165
	Luckimpore ...	Deboroghur	5	7	11	20	18	20	23	18	12	6	1	2	143
		North Luckimpore ...	5	7	7	17	18	21	25	16	18	6	...	2	142
		Sudyah	7	8	12	21	20	23	20	24	20	2	2	2	161
	Naga Hills... ...	Samoogoodting	3	6	10	12	11	19	20	17	17	9	...	2	126
	Khasi and Jynteah Hills.	Shillong	...	4	6	17	13	19	16	20	13	4	1	...	113
		Jaowai	...	4	4	13	9	26	24	23	16	6	...	...	125
		Cheerapoonjee	1	8	13	22	18	28	27	29	28	10	...	1	185
	Garo Hills	Tura	1	2	7	15	7	19	25	27	19	3	...	3	128
	Other Provinces.														
	N.-W. Provinces ...	Benares	...	...	3	...	2	2	19	12	7	...	...	...	45
		Goruckpore	...	...	2	...	2	8	15	12	6	...	...	1	46
		Jhansi...	...	...	...	...	...	1	22	20	15	...	...	...	58
		Allahabad	1	1	2	...	...	3	21	15	11	...	...	...	54
		Lucknow	...	1	...	...	3	4	16	16	11	...	...	...	51
		Agra	1	1	2	...	7	6	14	9	12	...	1	...	53
		Ajmere	1	...	...	...	6	3	16	14	5	...	...	1	46
		Bareilly	2	1	2	...	3	2	18	9	15	...	...	...	52
		Roorkee	2	...	2	...	4	1	18	13	9	...	1	3	53
		Meerut	2	...	1	...	3	1	15	10	9	2	...	2	45
	Central India ...	Jubbulpore	...	1	2	...	4	4	23	15	14	...	...	1	69
		Nagpore	...	4	2	1	4	7	18	15	17	...	...	1	69
		Saugor	3	...	1	...	2	3	22	19	17	...	...	...	67
		Hoshungabad	3	...	...	...	1	4	18	14	16	...	...	...	56
		Chanda	...	...	1	...	6	9	21	18	17	...	...	1	73
		Raipore	...	1	4	...	5	5	17	15	12	1	...	1	61
		Seoni	...	4	3	1	4	10	24	18	14	...	...	2	80
	Berars	Akola	3	1	1	...	2	12	18	14	13	...	1	?	?
		Omraoti	3	4	...	...	5	15	19	16	13	...	0	?	?
	Madras	Vizagapatam	...	...	...	1	3	4	15	11	5	20	4	2	65
		Madras	1	3	...	2	1	12	10	13	6	20	16	6	90
	Ceylon	Jaffna	4	8	2	7	6	...	...	3	2	17	18	15	82
		Trincomalee	8	10	6	11	6	...	3	9	8	15	20	23	119
		Colombo	1	7	9	9	21	20	12	5	6	17	19	14	140
		Galle	4	11	13	16	20	28	21	16	10	20	16	14	189

TABLE XXXI.—AVERAGE RAINFALL OF SEVERAL STATIONS TABULATED ACCORDING TO THE SEASONS.

Stations.	Year.	Average.			
		January to May.	June to September.	October to December.	Year.
Burdwan	13—16	9·02	43·41	6·68	59·11
Raneegunge	6	5·24	45·30	4·15	54·69
Bankoora	15—16	7·70	40·02	4·85	52·57
Soory	10	5·43	41·34	4·77	51·54
Midnapore	7—9	10·17	44·87	7·24	62 28
Contai	5—6	8·80	50·43	15·21	74·44
Saugor Island	5—6	9·12	59·85	13·32	82·29
Calcutta	32	10·15	49·67	6·22	66·04
Kishnaghur	9—13	13·82	37·64	5·47	56·93
Jessore	11—15	14·38	44·83	7·20	66·41
Berhampore	15—17	8·77	39·79	6·43	54·99
Dinagepore	9—11	12·52	65·56	6·51	84·59
Maldah	15—17	8·96	39·42	5·50	53·88
Bauleah	11—13	10·33	45·21	6·17	61·71
Rungpore	9—11	14·12	68·61	5·46	88·19
Bogra	10—12	16·38	64·69	7·34	88·41
Darjeeling	10—13	14·52	101·94	8·49	124·95
Rungbee...	6	21·52	144·57	9·16	175·25
Buxa	4	35·25	204·03	17·10	256·38
Dacca	12—13	19·53	48·19	6·71	74·43
Furreedpore	10	21·49	48·62	5·72	75·83
Mymensingh	8—9	24·05	73·14	5·86	103·05
Sylhet	13—17	44·18	99·65	10·48	154·31
Silchar	12—14	36·90	73·13	9·69	119·72
Chittagong	13—15	16·83	79·66	9·30	105·79
Noakholly	14—16	16·30	75·36	10·04	101·70
Tipperah	12—13	23·59	61·24	8·67	93·50
Akyab	12—14	12—98	176·88	19·34	209·20
Patna	10—11	3·27	31·64	2·70	37·61
Gya	9—11	3·48	36·17	3·37	43·02
Arrah	14—17	4·31	41·44	3·18	48·93
Mozufferpore	12—14	4·51	36·37	3·59	44·47
Chupra	14—17	3·49	31·64	2·74	37·87
Chumparun	9—11	3·59	38·71	3·39	45·69
Monghyr...	16—17	3·56	32·55	3·93	40·04
Bhagulpore	16—17	5·30	38·30	5·03	48·63
Rajmehal	2—3	4·03	43·12	3·24	50·39
Cuttack	12—15	5·61	40·65	7·99	54·25
False Point	6	8·19	50·93	15·53	74·65
Pooree	15—16	5·88	39·45	10·22	55·55
Balasore	11—13	11·35	47·34	8·61	67·30
Sumbulpore	8—11	2·85	43·21	4·39	50·45
Hazareebagh	7—8	3·24	43·38	3·75	50·37

TABLE XXXI.—AVERAGE RAINFALL OF SEVERAL STATIONS TABULATED ACCORDING TO THE SEASONS.—(*Continued*).

Stations.	Year.	Average.			
		January to May.	June to September.	October to December.	Year.
Ranchee	15—17	5·45	34·34	3·50	43·29
Purulia	8—11	3·76	35·78	5·10	44·64
Goalpara...	8—9	20·56	72·40	5·79	98·75
Gowhatty	11—13	20·72	45·61	3·79	70·12
Tezpore	11—13	20·03	52·13	4·66	76·82
Nowgong	11—13	24·40	57·57	5·55	87·52
Seebsaugor	13—15	28·61	58·51	7·04	94·16
Nazeerah...	11—12	24·00	55·36	6·79	86·15
Shillong	5—6	14·34	56·26	7·34	77·94
Cheerapoonjee	6—13	103·64	400·26	19·83	523·73
Benares	9—10	2·30	32·83	2·08	37·21
Goruckpore	6	3·54	44·06	4·88	52·48
Jhansi	5—8	3·33	29·07	1·96	34·36
Lucknow...	6	2·89	41·68	2·72	47·29
Agra	9—10	2·07	22·72	0·82	25·61
Ajmere	7—8	2·36	19·27	0·69	22·32
Bareilly	5—6	4·45	36·80	1·83	43·08
Roorkee	9	6·79	30·71	1·77	39·27
Jubbulpore	12	1·93	50·11	1·71	53·75
Nagpore	24	3·22	38·42	3·70	45·34
Saugor	16	2·04	46·49	2·08	50·61
Hoshungabad	12	1·31	43·89	1·63	46·83
Chanda	7	3·12	43·10	2·26	48·48
Raipore	7	2·87	44·84	2·94	50·65
Seoni	11	2·88	41·36	2·63	46·87
Jaffna	3	12·88	4·98	32·16	50·02
Trincomalee	3—4	19·48	9·74	30·33	59·55
Colombo	4	32·61	14·47	33·06	80·14
Galle	4	25·88	19·36	28·49	73·73

TABLE XXXII.—COMPARISON OF THE RAINFALL OF 1873 WITH THE AVERAGES OF THE PRECEDING TABLE.

	January to May.	June to September.	October to December.	Year.	
	Ins.	Ins.	Ins.	Ins.	
Burdwan	+ 0·59	+ 4·22	— 5·25	— 0·44	— 1 per cent.
Raneegunge	— 0·80	— 5·48	— 3·57	— 9·85	— 18 „ „
Bankoora	+ 1·50	— 3·19	— 3·54	— 5·23	— 10 „ „
Soory	— 2·86	+ 8·55	— 3·78	+ 1·91	+ 4 „ „
Midnapore	+ 1·89	— 12·27	— 7·08	— 17·46	— 28 „ „
Contai	— 2·03	— 9·75	— 9·55	— 21·33	— 29 „ „
Saugor Island	— 2·66	— 29·78	— 7·31	— 39·75	— 48 „ „
Calcutta	— 3·35	— 14·56	— 2·86	— 20·77	— 31 „ „
Kishnaghur	— 6·02	+ 1·25	— 5·36	— 10·13	— 18 „ „
Jessore	— 7·26	— 8·11	— 5·79	— 21·16	— 32 „ „
Berhampore	— 5·68	— 11·81	— 5·99	— 23·48	— 43 „ „
Dinagepore	— 10·06	— 24·81	— 6·19	— 41·06	— 48 „ „
Maldah	— 6·97	— 15·31	— 4·34	— 26·62	— 49 „ „
Bauleah	— 6·81	— 17·19	— 5·57	— 29·57	— 48 „ „
Rungpore	— 3·62	— 34·85	— 5·08	— 43·55	— 49 „ „
Bogra	— 10·44	— 33·88	— 6·96	— 51·28	— 58 „ „
Darjeeling	— 1·62	— 37·70	— 8·47	— 47·79	— 38 „ „
Buxa	— 25·52	— 38·12	— 16·75	— 80·39	— 31 „ „
Dacca	— 8·13	— 1·51	— 5·55	— 15·19	— 20 „ „
Furreedpore	— 6·36	— 13·20	— 5·70	— 25·26	— 33 „ „
Mymensingh	— 16·07	— 20·00	— 4·98	— 41·05	— 40 „ „
Sylhet	— 19·21	+ 0·97	— 9·28	— 27·52	— 18 „ „
Silchar...	— 13·51	— 2·55	— 0·30	— 16·36	— 14 „ „
Chittagong	— 5·43	— 9·57	— 4·40	— 19·40	— 18 „ „
Noakholly	+ 6·49	+ 10·78	— 0·07	+ 17·20	+ 17 „ „
Tipperah	— 9·92	— 3·09	— 7·00	— 20·01	— 21 „ „
Akyab	+ 2·91	+ 3·31	— 3·32	+ 2·90	+ 1 „ „
Patna	— 2·03	— 2·47	— 2·57	— 7·07	— 19 „ „
Gya	— 2·07	— 2·07	— 3·31	— 7·45	— 17 „ „
Arrah	— 2·17	— 5·86	— 3·10	— 11·13	— 23 „ „
Mozufferpore	+ 0·49	— 12·34	— 3·56	— 15·41	— 35 „ „
Chupra	— 0·50	— 0·75	— 2·74	— 3·99	— 11 „ „
Chumparun	+ 2·01	— 3·27	— 3·19	— 4·45	— 10 „ „
Monghyr	— 0·83	+ 2·38	— 3·87	— 2·32	— 6 „ „
Bhagulpore	— 3·55	— 11·51	— 4·65	— 19·71	— 40 „ „
Rajmehal	— 2·08	— 20·99	— 3·04	— 26·11	— 52 „ „
Cuttack	— 0·12	— 10·78	— 4·74	— 15·64	— 29 „ „
False Point	— 2·44	— 18·33	+ 7·72	— 13·05	— 17 „ „
Pooree...	+ 0·27	— 3·34	+ 5·24	+ 2·17	+ 4 „ „
Balasore	— 4·08	— 12·32	— 2·55	— 18·95	— 28 „ „
Sumbulpore	— 1·16	+ 4·68	— 2·72	+ 0·80	+ 2 „ „
Haarzeebagh	— 1·97	+ 14·24	— 3·50	+ 8·77	+ 17 „ „
Ranchee	— 2·11	+ 11·64	— 2·87	+ 6·66	+ 15 „ „

TABLE XXXII.—COMPARISON OF THE RAINFALL OF 1873 WITH THE AVERAGES OF THE PRECEDING TABLE.—(*Continued.*)

	January to May.	June to September.	October to December.	Year.	
	Ins.	Ins.	Ins.	Ins.	
Purulia	+ 1·55	+ 0·76	— 4·95	— 2·64	— 6 per cent.
Goalpara	0	— 24·75	— 5·67	— 30·42	— 31 „ „
Gowhatty	— 3·24	— 13·40	— 3·47	— 20·11	— 29 „ „
Tezpore	— 4·65	— 3·28	— 3·00	— 10·93	— 14 „ „
Nowgong	— 10·85	— 0·56	— 5·50	— 16·91	— 19 „ „
Seebsaugor	+ 0·19	— 15·40	— 5·68	— 20·89	— 22 „ „
Nazeerah	+ 1·27	— 6·38	— 5·69	— 10·80	— 12 „ „
Shillong	— 0·25	— 17·74	— 6·38	— 24·37	— 31 „ „
Cheerapoonjee	— 56·54	— 165·96	— 18·23	—240·73	— 46 „ „
Benares	— 1·67	+ 2·63	— 2·08	— 1·12	— 3 „ „
Goruckpore	— 2·93	— 6·06	— 4·58	— 13·57	— 26 „ „
Jhansi	— 3·33	+ 15·88	— 1·96	+ 10·59	+ 31 „ „
Lucknow	— 1·67	— 8·22	— 2·72	— 12·61	— 27 „ „
Agra	— 0·29	+ 21·87	— 0·82	+ 20·76	+ 81 „ „
Ajmere	— 0·44	— 0·03	— 0·58	— 1·05	— 5 „ „
Bareilly	— 2·30	— 4·25	— 1·83	— 8·38	— 19 „ „
Roorkee	— 4·24	+ 12·08	— 1·23	+ 6·61	+ 17 „ „
Jubbulpore	— 0·44	— 5·63	— 1·50	— 7·57	— 14 „ „
Nagpore	— 0·57	— 10·46	— 3·68	— 14·71	— 32 „ „
Saugor	— 0·56	— 6·37	— 2·09	— 9·00	— 18 „ „
Hoshungabad	— 0·61	— 2·49	— 1·63	— 4·73	— 10 „ „
Chanda	— 0·71	— 7·20	— 2·24	— 10·15	— 21 „ „
Raipore	— 1·91	— 11·01	— 2·57	— 15·49	— 31 „ „
Seoni	+ 0·97	— 3·72	— 1·59	— 4·34	— 9 „ „
Jaffna	— 0·43	— 1·82	+ 2·81	+ 0·56	+ 1 „ „
Trincomalee	+ 3·93	— 1·56	— 1·17	+ 1·20	+ 2 „ „
Colombo	+ 11·88	— 0·08	— 6·32	+ 5·48	+ 6 „ „
Galle	+ 7·15	— 3·43	— 3·66	+ 0·06	0 „ „

In every part of Northern India, comprehended in the foregoing tables, with rare local exceptions, the rainfall of 1873 was very deficient; and, as a rule, the deficiency was not restricted to any one particular season of the year, but was distributed throughout. It varied, however, in different parts of the area; and the variations exhibit some peculiar features which indicate that, while the monsoon current as a whole was either unusually weak or unusually dry, that portion which came from the Bay of Bengal failed to a greater extent than that which came from the Arabian Sea. The last column of Table XXXII exhibits the chief facts of the relative deficiency of the rainfall very clearly. It was greatest in Rajshahye, where the deficiency amounted to between 40 and 60 per cent. of the average. In the districts of the Bhagulpore Division, north of the Ganges, and in those that border that river on the south, as far westward as the Kurruckpore hills, it was almost equally great. In Northern Tirhoot it averaged from 25 to 40 per cent. In the Monghyr, Patna, Gya, and Shahabad districts, which occupy the plains of Behar south of the Ganges, the deficiency was much less, amounting to less than 20 per cent., and still further south at Hazareebagh and Ranchee the fall was some 15 per cent. in excess of the average, and such failure of crops as ensued was due rather to the early cessation of the rains than to any deficiency in their absolute quantity.

In the deltaic districts of Lower Bengal the deficiency generally amounted to between 30 and 40 per cent., but was very much less in the western part of the Burdwan Division, where it did not exceed 20 per cent., or even less, while one station, Soory, shows an actual excess.

In the eastern districts to the south of the Garo and Khasi Hills, the deficiency generally amounted to about 20 per cent. of the average fall, but a remarkable exception is presented by Noakholly, which received 17 per cent. more than the average. In Assam the fall was from 12 to 30 per cent. below the average, and at Cheerapoonjee the deficit amounted to 241 inches or 46 per cent.

Generally in the North-Western and Central Provinces the deficiency was much less than in Bengal proper, and in a few places the average annual fall was even considerably exceeded. Thus, Jhansi received an excess of 31 per cent., Agra of 81 per cent., and Roorkee of 17 per cent., this being in all cases due to the unusually heavy fall from July to September. On the other hand, Lucknow and Goruckpore in Oude had a deficit of 26 and 27 per cent., Bareilly of 19 per cent., but Benares of only 3 per cent.

It is to be noticed that all the places at which the rainfall was excessive, viz. Hazareebagh and Ranchee, Jhansi, Agra and probably Roorkee, lay about the line along which in ordinary years the two branches of the monsoon meet.

To the south of the Satpura, the fall was most deficient at Nagpore and Raipore (32 and 31 per cent.): at Chanda to the south, on the Godavary, it was 21 per cent.; while at Seoni on the Satpura plateau it was only 9 per cent., and in the Nerbudda Valley to the north of it 10 and 14 per cent. All these places receive their rainfall from the west coast.

The actual distribution of the rainfall is shown on plate IV, which has been drawn up from the date of table XXIX.

WINDS.

Table XXXIII shows the wind observations of each month, classified to 16 points of the compass, together with the mean movement of the air during the 24 hours. In the case of Calcutta alone the winds are arranged under 24 compass points.

The anemometers are all of Robinson's construction, and are fixed either on the top of a building or of a post set up for the purpose. The elevations of the cup and bulb motors above the ground are as follow :—

Akyab	... ...	50 feet,	on a post.
Cuttack	... ...	31 „	on a building.
Saugor Island	... ...	39 „	turret of Superintendent's house.
Calcutta	... ...	71 „	the highest point of the Surveyor General's office.
Jessore	... ...		
Chittagong	... ...	25 „	on the Electric Telegraph office building.
Dacca	... ...	43 „	ditto ditto.
Silchar	... ...	21 „	on a post.
Goalpara	... ...	19 „	ditto.
Berhampore	... ...	23 „	on a building.
Hazareebagh	... ...	29 „	ditto.
Monghyr	... ...	9 „	on a small post.
Patna	... ...	34 „	on roof of cutcherry.

At Chittagong and Goalpara the observatories are situated on hills, so that the exposure of the anemometers is really somewhat better than might be inferred from the above figures. At Hazareebagh the position of the instrument was changed at the beginning of the year.

Tables XXXIV and XXXV show the resultant of the winds in each month, computed by Lambert's formula from the number of observed winds. Except for certain of the North-Western Provinces stations, the excess of the observations in the direction of the resultant is shown as a percentage. This is not given in the monthly abstracts issued by the Meteorological Reporter for the North-Western Provinces. The average resultants of many years are given in Table XXXVI.

Table XXXVII shows the mean diurnal movement of the wind in each month of 1873 at a number of stations in the North-Western Provinces, Central India and Ceylon; and Table XXXVIII the average movement at 19 stations, deduced from past years' registers.

TABLE XXXIII.—SUMMARY OF OBSERVED WIND DIRECTIONS IN 1873.

PORT BLAIR.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	3	4	12	...	...	...	...	1	...	...	...	8
N. N. E.	...	...	...	...	...	...	...	...	...	...	...	1
N. E.	43	36	33	5	10	...	...	3	...	1	39	32
E. N. E.	...	...	...	...	...	...	...	...	...	...	...	...
East	...	4	1	4	...	...	1	2	2	15	3	4
E. S. E.	...	...	...	...	...	...	...	...	...	...	...	...
S. E.	1	2	3	13	8	1	2	14	11	11	3	8
S. S. E.	...	...	...	...	...	...	...	...	3	...	...	2
South	...	...	...	...	...	...	3	7	5	5	9	1
S. S. W.	...	...	...	...	...	...	2	...	5	...	...	...
S. W.	...	...	1	14	24	51	54	33	34	28	6	4
W. S. W.	...	...	...	...	...	...	...	...	...	...	...	...
West	...	1	1	8	1	3	...	...	...	...	...	...
W. N. W.	...	...	...	...	...	...	...	...	...	...	...	...
N. W.	15	9	11	16	19	5	...	2	...	2	...	2
N. N. W.	...	...	...	...	...	...	...	...	...	...	...	...
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles	140·2	158·3	157·5	169·3	152·6	?	338·5	230·4	288·7	187·9	215·8	114·3

NANCOWRY.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	...	...	...	...	1	...	...	...	...	...	Not reported.	...
N. N. E.	...	...	...	...	...	...	...	...	...	...		4
N. E.	...	...	...	...	6	...	...	...	...	...		...
E. N. E.	...	...	...	...	...	...	...	...	...	...		2
East	...	...	...	...	4	...	...	...	...	...		26
E. S. E.	...	...	...	...	...	...	...	...	...	...		11
S. E.	...	...	...	...	...	9	2	...	...	...		6
S. S. E.	...	...	...	...	...	1	...	...	...	...		5
South	...	...	...	...	2	...	...	...	...	...		4
S. S. W.	...	...	...	...	3	9	...	...	...	...		2
S. W.	...	...	...	...	11	8	6	14	37	41		2
W. S. W.	...	...	...	...	...	...	...	9	1	...		...
West	...	...	...	...	31	33	54	39	22	21		...
W. N. W.	...	...	...	...	...	...	...	...	...	...		...
N. W.	...	...	...	...	4	...	...	...	...	...		...
N. N. W.	...	...	...	...	...	...	...	...	...	...		...
Calm	...	...	...	...	...	...	...	...	...	...		...
Mean diurnal velocity in miles	...	...	...	...	112·9	343·4	330·4	349·9	310·6	246·0	214·1	198·9

MADRAS.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	...	...	...	1	...	1	...	...	...	4	8	15
N. N. E.	10	4	...	1	...	...	1	...	...	1	6	17
N. E.	20	6	...	...	...	...	...	2	...	2	5	6
E. N. E.	11	18	2	5	...	2	2	1	1	3	2	3
East	2	11	11	5	...	...	1	1	5	3	1	4
E. S. E.	6	3	8	5	4	4	1	1	8	1	4	3
S. E.	5	4	22	14	21	3	2	6	4	3	5	1
S. S. E.	2	8	12	13	17	3	1	3	1	...	1	...
South	1	1	5	6	9	2	1	2	1	1	...	...
S. S. W.	...	...	2	4	9	2	3	5	3	3	...	...
S. W.	...	...	...	4	1	2	11	6	9	4	3	2
W. S. W.	...	...	...	1	1	9	11	10	12	4	2	1
West	...	...	...	1	...	22	21	14	7	5	1	...
W. N. W.	...	...	...	...	...	8	6	5	5	6	1	...
N. W.	...	...	...	...	...	1	1	4	2	8	5	2
N. N. W.	2	1	...	...	...	1	...	2	2	14	16	8
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles	174·2	187·7	208·1	258·0	273·1	308·8	300·8	229·0	239·0	181·9	216·2	215·2

VIZAGAPATAM.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	...	2	...	...	...	...	1	...	2	2	6	...
N. N. E.	...	...	...	1	...	...	...	1	1	1	3	3
N. E.	3	1	...	3	...	...	...	...	...	9	5	7
E. N. E.	9	13	3	7	...	1	...	2	2	25	31	27
East	14	17	4	7	1	6	1	3	4	29	36	39
E. S. E.	6	6	2	3	2	6	...	2	3	8	6	7
S. E.	11	20	21	11	10	11	...	11	11	6	2	5
S. S. E.	9	14	5	5	9	3	...	9	4	3	...	1
South	18	10	19	20	23	14	2	7	5	...	...	2
S. S. W.	4	1	3	1	5	3	2	3	2	1	2	1
S. W.	7	2	4	5	11	7	18	16	14	5	1	5
W. S. W.	9	5	14	14	11	15	25	14	22	4	3	4
West	12	12	39	35	42	38	57	47	38	9	7	4
W. N. W.	11	3	7	5	8	14	14	8	10	4	7	8
N. W.	7	3	3	3	2	1	1	..	1	14	6	6
N. N. W.	4	3	...	...	...	1	3	1	1	4	5	5
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles	41·7	60·1	90·7	125·6	123·5	101·8	135·2	92·1	92·7	72·3	73·3	67·1

AKYAB.

April, June, and August 3 *observations; other months* 4 *observations daily.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	8	8	3	1	1	1	1	1	2	8	16	21
N. N. E.	2	1	...	...	1	2	...	1	...	4	6	6
N. E.	3	10	1	1	...	4	1	3	1	15	27	22
E. N. E.	6	10	1	1	...	...	2	2	5	4	6	7
East	10	4	8	5	5	5	...	3	16	20	10	5
E. S. E.	1	...	...	2	4	2	...	2	1	3	...	...
S. E.	2	...	3	1	3	16	12	8	23	12	2	..
S. S. E.	...	...	...	4	6	5	9	9	4	10	...	...
South	...	...	9	7	8	31	44	31	20	6	4	2
S. S. W.	...	1	9	9	2	5	10	12	9	6	6	3
S. W.	1	3	10	8	12	12	14	9	8	5	4	9
W. S. W.	...	5	3	11	10	2	2	3	2	3	5	4
West	27	33	34	32	30	2	1	6	22	16	15	14
W. N. W.	14	15	17	5	23	2	1	1	2	4	3	7
N. W.	30	16	10	2	6	....	2	2	4	5	10	24
N. N. W.	8	6	6	1	2	1	2	...	1	3	6	...
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles	34·0	33·3	47·5	134·8	41·7	58·1	50·5	70·0	84·1	60·0	61·6	70·3

FALSE POINT.

Four observations daily.

North	15	8	2	1	...	...	1	4	...	26	37	34
N. N. E.	1	3	...	1	...	...	...	1	1	2	3	1
N. E....	13	10	5	3	2	3	2	16	4	58	23	41
E. N. E.	9	10	3	...	...	...	...	2	...	1	2	...
East	5	4	2	3	1	...	...	9	2	10	13	15
E. S. E.	3	4	4	...	1	...	...	1	1	4	1	2
S. E.	9	2	3	...	2	9	2	9	14	2	5	4
S. S. E.	4	6	6	6	1	...	1	...	...	...	...	3
South	3	10	12	9	12	5	2	2	8	...	...	1
S. S. W.	5	6	2	5	1	2	...	1	2	...	...	...
S. W.	20	24	53	81	73	73	27	49	37	...	...	5
W. S. W.	1	...	13	5	12	5	30	2	...	...	...	1
West	12	11	2	1	7	5	45	17	33	2	1	2
W. N. W.	5	1	1	...	3	2	5	...	6	...	...	.
N. W.	10	9	6	...	4	4	5	2	6	8	26	12
N. N. W.	2	...	...	...	...	1	...	...	2	1	...	...
Calm	7	9	10	4	4	10	4	7	3	8	9	3
Variable	...	...	...	1	1	1	...	2	1	2	..	...

CUTTACK.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.
North	7	7	3	...	...	...	...	3	...	10	6	8
N. N. E.	7	5	3	...	3	2	2	13	3	18	20	24
N. E.	11	5	4	2	4	...	...	6	1	18	5	10
E. N. E.	3	3	3	3	3	1	2	5	3	9	4	7
East	5	7	...	1	2	3	...	2	2	8	2	...
E. S. E.	5	3	1	3	1	1	1	2	...	2	5	...
S. E.	8	8	5	3	2	1	...	1	1	...	...	1
S S. E.	1	2	9	5	7	13	...	2	1	1	...	1
South	8	13	15	28	18	14	5	1	10	3	3	2
S. S. W.	6	10	30	47	32	11	6	12	8	...	1	4
S. W.	6	16	16	10	10	25	26	14	14	...	1	1
W. S. W.	12	7	9	2	10	18	44	8	14	2	3	...
West	11	10	8	2	1	9	11	6	5	4	11	5
W. N. W.	17	6	2	...	1	6	1	3	4	5	9	4
N. W.	9	1	4	...	3	1	...	...	7	6	4	1
N. N. W.	4	5	2	1	1	6	...	1	...	2	7	...
Calm	3	4	8	12	26	8	20	45	47	36	39	56
Variable	...	...	...	...	...	1	...	...	...	...	...	...
Mean diurnal velocity in miles ...	46·0	55·2	87·5	130·9	112·8	97·3	89·1	62·5	46·2	46·4	29·4	37·7

SAUGOR ISLAND.

January to March 2 observations; August 3 observations; other months 4 observations daily.

North	11	6	2	3	5	1	1	1	1	22	35	38
N. N. E.	5	3	...	1	...	1	...	...	...	9	15	14
N. E.	4	5	1	...	3	...	3	3	1	31	13	21
E. N. E.	2	...	1	1	...	...	3	6	1	12	3	4
East	4	...	1	3	5	3	3	7	4	13	4	9
E. S. E.	...	...	...	4	...	...	2	5	7	3	1	1
S. E.	...	...	...	2	2	3	2	11	1	4	...	2
S. S. E.	...	...	4	6	9	9	6	7	10	4	...	2
South	4	7	7	35	30	49	13	11	19	6	2	5
S. S. W.	7	7	15	28	30	24	14	9	20	2	5	5
S. W.	11	9	15	31	24	9	33	17	29	3	9	2
W. S. W.	1	5	1	2	8	3	21	8	3	...	4	2
West	2	3	7	1	2	5	13	4	6	1	2	3
W. N. W.	1	...	2	...	...	2	4	3	6	...	1	...
N. W.	3	2	2	...	2	1	2	1	9	3	7	3
N. N. W.	6	9	4	1	2	1	1	...	3	11	19	13
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles ...	118·9	179·2	259·4	351·9	322·9	314·4	345·8	230·7	221·5	120·7	130·3	159·1

CHITTAGONG.

Four observations daily.

	January.	February.	March.	April	May.	June.	July.	August.	September.	October.	November.	December.
North	29	15	12	4	3	2	1	3	3	14	37	42
N. N. E.	7	9	9	1	8	3	2	2	4	4	...	7
N. E.	4	4	2	3	2	2	1	3	2	3	...	3
E. N. E.	...	...	1	5	5	...	1	4	2	5	...	...
East	3	1	1	6	7	7	17	9	12	5	...	1
E. S. E.	1	3	8	11	6	20	32	18	21	4	...	...
S. E.	3	2	11	12	5	26	32	18	16	3	1	...
S. S. E.	2	3	1	3	10	13	13	11	6	3	...	...
South	2	8	8	21	22	19	5	12	8	1	1	...
S. S. W.	3	2	1	1	3	3	4	1	2	1	...	1
S. W.	8	9	19	22	33	8	6	10	9	3	1	2
W. S. W.	7	7	9	7	6	4	1	2	7	11	5	9
West	17	19	21	10	5	1	1	5	6	16	13	10
W. N. W.	11	15	6	1	2	...	...	...	...	8	8	10
N. W.	11	5	9	4	2	...	...	1	2	18	21	13
N. N. W.	8	9	6	6	2	...	2	...	2	11	28	26
Calm	...	...	...	...	3	10	6	19	18	14	5	...
Mean diurnal velocity in miles ...	116·9	147·8	177·9	183·5	153·8	184·9	186·9	129·5	112·5	81·5	104·6	104·8

CALCUTTA.

Four observations daily.

North	3	1	2	1	...	1	...	...	1	4	11	7
N. 15° E.	1	2	2	...	...	...	...	...	...	1	7	1
N. 30° E.	15	4	1	...	...	1	1	...	1	3	3	3
N. E.	13	13	1	4	5	1	4	3	...	9	27	35
N. 60° E.	12	1	2	1	3	...	...	...	...	25	23	38
N. 75° E.	4	...	1	1	4	...	3	..	...	10	6	4
East	4	1	4	1	2	1	3	8	4	25	4	8
S. 75° E.	...	...	2	2	...	...	2	5	5	8	5	1
S. 60° E.	...	...	1	2	...	4	2	9	8	7	...	1
S. E.	6	...	1	5	6	10	11	16	10	5	...	...
S. 30° E.	1	2	3	6	6	7	9	9	8	5	2	...
S. 15° E.	...	1	11	12	3	11	3	9	7	5	...	...
South	4	6	23	21	13	25	20	11	6	2	...	3
S. 15° W.	...	3	15	13	13	10	7	10	4	1	2	...
S. 30° W.	5	9	9	31	18	20	23	19	20	...	9	3
S. W.	...	3	11	13	21	11	27	12	21	1	1	4
S. 60° W.	2	7	5	2	8	5	4	6	2	...	...	...
S. 75° W.	6	6	3	1	4	2	...	2	4	...	1	...
West	4	5	3	1	3	3	2	...	6	...	1	...
N. 75° W.	7	9	5	...	3	1	...	1	...	...	...	...
N. 60° W.	10	14	5	1	6	...	...	1	2	4	...	2
N. W.	13	19	11	2	4	3	1	2	3	3	4	...
N. 30° W.	12	5	2	...	1	1	...	...	...	3	6	8
N. 15° W.	2	1	1	...	...	1	...	...	6	3	8	6
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles ...	72·2	98·3	146·1	223·1	186·8	166·1	126·7	132·7	139·0	102·1	99·2	107·9

BURDWAN.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	...	...	...	...	...	...	...	...	1	14	31	25
N. N. E.	...	...	...	...	...	...	...	...	...	3	2	2
N. E.		...	...	...	...	...	...	...	15	9	7	6
E. N. E.	...	...	...	...	...	...	...	...	...	2	...	...
East...	...	...	...	...	...	...	...	...	...	9	2	...
E. S. E.	...	...	...	...	...	...	...	...	...	1	...	2
S. E.	...	...	...	...	...	...	...	...	8	...	...	...
S. S. E.	...	...	...	...	...	...	...	...	...	3	...	...
South	...	...	...	...	...	...	...	...	9	3	...	...
S. S. W.	...	...	...	...	...	...	...	...	...	...	...	...
S. W.	...	...	...	...	...	...	..	...	18	...	...	1
W. S. W.	...	...	...	...	...	...	...	...	...	1	...	5
West	...	...	...	...	...	...	...	...	9	1	7	8
W. N. W.	...	...	...	...	...	...	...	...	...	...	1	...
N. W.	...	...	...	...	...	...	...	...	...	1	1	2
N. N. W.	...	...	...	...	...	...	...	...	...	15	9	11
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles	...	...	...	...	...	...	...	...	...	38·5	34·9	40·4

JESSORE.

January to April 4 observations; other months 2 observations daily.

North	8	9	...	1	...	...	...	...	1	16	3	18
N. N. E.	1	...	...	...	...	...	...	...	...	1	2	1
N. E.	2	...	1	2	...	1	1	1	...	6	10	1
E. N. E.	1	...	...	...	...	...	...	2	...	5	...	...
East...	1	1	1	3	1	1	2	4	1	12	4	1
E. S. E.	...	...	...	2	5	1	2	6	1	2	...	...
S. E.	...	4	5	10	7	13	15	18	22	5	5	4
S. S. E.	6	...	3	5	3	11	11	3	13	1	1	...
South	6	5	14	49	24	24	17	15	8	4	2	1
S. W.	...	...	8	5	3	1	1	...	...	...	1	...
W.	...	15	30	25	8	4	10	9	6	...	1	2
W.	9	4	5	...	6	...	...	...	...	...	...	...
... ...	19	15	15	4	3	...	2	1	7	2	4	7
W.	6	5	7	1	1	...	...	...	1	...	...	1
... ...	24	14	19	3	1	2	1	2	...	5	10	9
... ...	4	7	...	2	...	1	...	...	...	3	3	17
... ...	37	30	16	8	...	1	...	1	...	...	...	...
...nal velocity in miles	46·5	58·4	85·1	125·4	114·1	137·2	114·8	91·2	93·8	58·6	45·1	52·8

DACCA.

June and August 3 *observations; other months* 4 *observations daily.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	13	3	9	3	1	...	1	2	4	16	21	14
N. N. E.	1	2	4	6	...	2	...	...	...	3	8	7
N. E.	5	7	6	8	3	1	...	...	2	7	7	8
E. N. E.	1	1	2	2	3	...	...	1	1	10	3	3
East	5	...	3	2	9	1	3	4	2	3	1	3
E. S. E.	1	1	2	...	3	1	13	6	10	3	...	1
S. E.	9	...	4	7	8	7	30	13	15	3	...	...
S. S. E.	2	3	13	16	18	20	25	18	15	5	1	1
South	4	11	19	41	44	43	32	19	19	5	2	...
S. S. W.	6	8	16	15	9	6	7	12	18	1	2	...
S. W.	3	9	21	13	15	5	9	12	14	1	7	3
W. S. W.	3	2	4	...	1	...	1	...	1	...	...	3
West	12	15	7	...	2	1	...	1	...	3	3	11
W. N. W.	12	19	3	...	...	...	...	...	...	8	8	9
N. W.	19	13	6	...	1	...	...	1	3	15	9	10
N. N. W.	3	2	1	...	1	...	...	1	...	4	8	8
Calm	9	3	1	...	3	...	1	2	16	32	34	39
Mean diurnal velocity in miles ...	48·4	70·6	115·4	178·6	139·9	176·1	180·0	123·7	110·8	49·1	37·8	46·6

SILCHAR.

Four observations daily.

North	3	8	5	10	8	13	8	2	6	7	4	6
N. N. E.	2	3	...	2	5	3	...	4	1	4	8	4
N. E.	2	6	15	16	7	7	5	5	15	9	25	8
E. N. E.	20	13	6	10	16	9	14	14	13	9	24	6
East	16	23	36	18	15	13	11	12	7	3	10	15
E. S. E.	9	4	8	4	6	2	4	4	3	13	7	8
S E.	1	6	5	6	5	1	5	8	7	5	6	5
S. S. E.	4	4	2	1	3	6	8	7	2	7	...	6
South	1	2	1	2	2	2	5	4	5	6	4	2
S. S. W.	8	7	3	3	4	6	2	6	...	4	2	2
S. W.	7	5	6	3	2	3	5	2	5	3	4	2
W. S. W.	7	7	5	7	7	3	7	9	3	8	4	4
West	13	6	7	8	11	17	13	17	10	9	3	2
W. N. W.	...	...	3	5	12	7	10	12	10	5	1	...
N. W.	3	2	2	11	2	13	6	2	4	...	1	...
N. N. W.	1	...	1	1	2	2	1	...	2	2	2	...
Calm	27	16	19	11	17	9	20	16	18	30	15	54
Mean diurnal velocity in miles ...	45·5	66·3	86·6	87·7	74·1	69·7	69·2	70·9	52·2	43·7	67·5	38·3

HAZAREEBAGH.

January to August 3 *observations; other months* 2 *observations daily.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	8	3	1	2	5	2	2	3	2	3	2	3
N. N. E.	...	...	1	1	1	1	...	...	2	...	5	3
N. E.	3	...	...	3	4	...	6	3	1	2	6	1
E. N. E.	2	...	3	2	2	1	5	12	7	7	4	2
East	2	...	...	3	3	3	5	12	7	3	1	1
E. S. E.	3	...	...	3	5	...	8	12	5	2	1	1
S. E.	1	2	6	4	4	7	13	7	5	1	1	1
S. S. E.	1	...	4	6	7	7	5	1	1	...	...	2
South	2	1	5	3	2	6	1	3	...	...	...	2
S. S. W.	...	2	5	5	4	7	1	5	1	...	...	2
S. W.	4	1	3	4	5	7	2	3	1	...	...	1
W. S. W.	6	1	10	4	8	2	7	3	1	6	...	1
West	11	8	8	4	2	5	12	15	5	3	3	5
W. N. W.	12	23	16	11	12	17	12	9	15	5	9	14
N. W.	31	32	25	22	25	19	13	5	7	27	20	17
N. N. W.	7	11	6	13	4	6	1	...	...	3	8	6
Calm	...	...	...	...	...	...	...	...	...	...	...	...
Mean diurnal velocity in miles ...	90·4	100·6	160·8	174·2	216·2	239·9	232·8	194·9	199·1	101·0	85·3	89·2

BERHAMPORE.

Four observations daily.

North	9	4	3	1	4	2	...	...	3	14	17	11
N. N. E.	9	2	4	5	2	3	...	...	...	6	15	10
N. E.	3	1	7	6	2	6	5	1	4	6	11	4
E. N. E.	3	1	3	5	3	5	6	1	1	1	2	2
East	...	...	4	5	6	1	13	7	10	3	2	1
E. S. E.	...	...	6	8	1	6	25	17	14	5	...	1
S. E.	...	2	7	10	12	9	19	18	17	...	...	1
S. S. E.	2	1	3	10	21	36	21	8	9	2	1	1
South	1	3	3	9	14	14	3	11	6	5	...	2
S. S. W.	1	2	8	22	12	11	8	13	10	3	...	1
S. W.	7	12	18	7	15	8	11	13	6	3	...	...
W. S. W.	6	7	9	4	4	3	1	6	4	2	2	...
West	9	8	4	5	9	3	...	4	7	2	2	2
W. N. W.	15	9	5	3	1	...	1	1	2	1	5	3
N. W.	5	13	4	2	...	1	...	1	1	2	3	13
N. N. W.	5	10	6	...	8	...	...	1	2	24	32	31
Calm	43	37	30	16	10	8	11	22	24	45	28	41
Mean diurnal velocity in miles ...	34·9	43·9	62·9	118·8	143·8	174·5	150·3	120·7	104·3	43·6	43·1	12·5

GYA.

January and February 4 *observations; March* 3 *observations; other months* 2 *observations daily.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	2	1	1	...	...	...	...	1	...	5	8	7
N. N. E.	...	...	...	...	...	...	...	...	1	5	14	11
N. E.	17	10	13	...	...	...	...	7	4	3	...	...
E. N. E.	...	...	1	...	...	...	...	6	4	1	3	...
East	9	7	13	...	...	...	...	13	9	...	2	6
E. S. E.	...	...	...	...	...	...	...	9	7	2	...	...
S. E.	6	5	5	...	...	...	...	3	5	8	...	1
S. S. E.	...	...	...	...	...	...	...	1	1	2	1	9
South	12	10	4	...	...	...	...	4	2	8	...	4
S. S. W.	...	...	...	...	...	...	...	1	...	1	...	5
S. W.	10	9	12	...	...	...	...	3	2	1	...	...
W. S. W.	...	...	...	...	...	...	...	1	3	3	1	1
West	21	22	14	...	...	...	...	5	3	1	10	3
W. N. W.	...	...	...	...	...	...	...	4	9	7	4	2
N. W.	26	30	22	...	...	...	...	3	4	2	...	1
N. N. W.	...	...	...	...	...	...	...	1	3	6	10	9
Calm	13	8	8	...	...	...	...	...	...	7	7	3
Variable	...	...	...	...	...	...	...	...	3	...	...	...
Mean diurnal velocity in miles ...	53·1	60·9	77·1	...	...	...	...	45·5	83·7	34·9	30·1	30·4

PATNA.

January 4 *observations; May* 3 *observations; other months* 2 *observations daily.*

North	1	...	...	...	...	...	1	...	...	...	1	...
N. N. E.	1	...	...	...	...	1	1	...	...	...	...	...
N. E.	10	...	...	...	4	8	7	...	2	1	...	1
E. N. E.	8	...	...	...	6	...	...	...	...	5	2	...
East	...	...	...	...	17	19	34	38	23	11	6	5
E. S. E.	...	...	...	...	3	...	...	...	...	...	1	...
S. E.	2	...	...	...	2	1	9	1	1	2	2	1
S. S. E.	...	...	...	...	...	...	...	...	1	1	1	2
South	...	...	...	...	...	...	4	3	1	4	2	4
S. S. W.	4	...	...	...	...	...	...	2	2	2	5	4
S. W.	4	...	...	...	1	...	3	1	5	4	7	8
W. S. W.	6	...	...	...	...	...	...	...	...	3	3	5
West	1	...	...	...	26	14	1	13	22	19	11	20
W. N. W.	26	...	...	...	...	...	...	...	...	1	6	1
N. W.	2	...	...	...	18	4	...	...	1	5	1	6
N. N. W.	13	...	...	...	...	...	...	...	...	1	1	2
Calm	46	...	...	...	13	11	2	3	2	3	11	3
Mean diurnal velocity in miles ...	52·2	...	...	...	...	...	...	89·8	118·9	63·8	53·8	63·1

MONGHYR.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	1	1	6	5	4	3	2	3	1	6	5	...
N. N. E.	3	...	5	5	4	7	4	5	2	3	3	2
N. E.	3	1	5	13	7	19	11	7	3	6	7	...
E. N. E.	1	3	12	18	6	14	9	5	2	...	1	3
East	2	3	24	37	30	28	55	24	41	6	3	...
E. S. E.	...	1	3	2	3	6	9	5	4	2	2	...
S. E.	2	...	2	1	7	5	12	3	2	...	...	...
S. S. E.	...	...	1	2	1	...	...	...	...	...	...	...
South	1	1	...	1	2	2	2	...	1	...	1	...
S. S. W.	15	15	7	1	1	3	2	...	1	3	...	28
S. W.	23	13	10	6	9	4	5	19	21	28	26	9
W. S. W.	9	20	8	4	8	4	4	11	11	7	8	28
West	20	25	17	7	20	...	2	11	9	17	17	6
W. N. W.	5	1	6	2	9	4	...	1	3	3	5	7
N. W.	5	6	1	4	8	6	2	1	...	11	12	1
N. N. W.	2	2	1	...	1	4	...	1	...	1	5	...
Calm	32	20	16	10	4	10	4	28	17	29	19	31
Mean diurnal velocity in miles ...	47·3	63·9	78·5	108·3	107·5	93·8	90·8	65·6	72·8	35·5	33·0	38·7

DARJEELING.

Four observations daily.

North	1	...	...	...	1	1	3	2	1	5	3	2
N. N. E.	...	...	...	...	...	...	...	...	...	...	...	...
N. E.	4	2	1	...	4	3	10	3	6	3	3	3
E. N. E.	...	...	...	...	...	1	3	1	2	3	4	1
East	9	15	22	24	19	16	26	30	21	16	11	11
E. S. E.	2	3	1	1	1	...	4	6	7	5	7	13
S. E.	13	11	8	8	17	15	11	10	11	9	13	12
S. S. E.	2	1	...	2	2	7	2	5	5	4	5	8
South	10	4	1	7	8	12	10	15	11	7	5	11
S. S. W.	1	5	2	4	4	4	4	3	5	2	1	3
S. W.	3	3	9	7	20	13	6	13	13	11	14	18
W. S. W.	6	4	5	3	4	12	9	7	7	6	7	8
West	45	45	44	40	34	29	26	24	11	19	16	14
W. N. W.	8	7	8	4	2	2	2	1	6	10	12	4
N. W.	14	11	19	18	6	1	3	2	9	18	10	6
N. N. W.	...	...	...	...	...	...	...	...	1	...	...	...
Calm	6	1	4	2	2	4	5	1	4	6	9	10
Variable	...	...	...	...	...	...	...	1	...	...	...	...

GOALPARA.

January to June 4 *observations; other months* 2 *observations daily.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	5	13	9	5	4	13	2	8	4	6	1	4
N. N. E.	1	...	...	...	...	2	...	4	...	1	1	2
N. E.	1	1	1	...	...	5	4	2	3	6	1	7
E. N. E.	13	6	10	5	4	4	9	1	6	8	16	8
East	50	33	34	22	28	21	12	7	12	18	26	17
E. S. E.	17	14	15	10	5	6	12	4	3	3	5	7
S. E.	4	12	16	24	8	2	3	...	2	2	...	1
S. S. E.	6	3	1	...	1	...	2	...	5	...	1	1
South	...	1	4	10	16	22	5	8	5	6	2	4
S. S. W.	2	5	15	24	9	...	5	7	3	...	2	...
S. W.	4	4	1	1	1	...	2	6	5	2	...	2
W. S. W.	7	4	1	...	2	...	1	3	2	1	1	2
West	8	12	1	6	32	19	4	6	6	4	1	2
W. N. W.	...	...	...	1	3	1	...	3	1	1	...	2
N. W.	2	...	1	1	5	11	1	1	2	2	...	1
N. N. W.	1	4	6	4	...	...	...	2	...	2	1	...
Calm	...	...	...	...	...	...	...	...	1	...	2	2
Mean diurnal velocity in miles ...	...	...	151·2	156·4	168·2	143·8	121·4	94·3	98·0	81·6	122·6	85·5

BENARES.

16*th to* 31*st December* 2 *observations; other months* 4 *observations daily.*

North	4	2	1	2	9	3	3	3	...	3	5	1
N. N. E.	...	...	...	...	...	...	...	...	...	...	...	...
N. E.	2	1	1	2	3	5	7	6	6	1	1	5
E. N. E.	...	...	...	...	...	...	...	...	...	...	...	...
East	2	1	6	1	16	14	32	40	41	7	23	2
E. S. E.	...	...	...	...	...	...	...	...	...	...	...	...
S. E.	2	...	7	7	9	4	2	6	1	1	5	5
S. S. E.	...	...	...	...	...	...	...	...	...	...	...	...
South	4	5	9	7	4	5	2	2	7	3	5	9
S. S. W.	...	...	...	...	...	...	...	...	...	...	...	...
S. W.	13	12	5	7	4	12	17	11	10	17	18	15
W. S. W.	...	...	...	...	...	...	...	...	...	...	...	...
West	36	50	56	61	38	35	31	35	45	78	42	36
W. N. W.	...	...	...	...	...	...	...	...	...	...	...	...
N. W.	19	17	9	5	11	7	2	1	...	9	10	6
N. N. W.	...	...	...	...	...	...	...	...	...	...	...	...
Calm	40	24	29	28	30	34	25	17	7	4	7	7
Mean diurnal velocity in miles ...	53·6	68·8	86·3	85·8	97·6	94·4	99·5	95·6	99·5	29·2	20·1	64·1

ROORKEE.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
North	2	1	2	...	...	...	...	...	1	...	...	...
N. N. E.	...	...	...	...	...	...	...	...	...	...	...	...
N. E.	6	7	3	6	12	9	2	1	1	1	...	...
E. N. E.	...	...	...	...	...	...	...	...	...	...	...	...
East	...	...	2	3	1	...	2	3	...	3	2	...
E. S. E.	...	...	...	...	...	...	...	...	...	...	...	...
S. E.	18	16	22	24	16	26	43	28	26	18	13	10
S. S. E.	...	...	...	...	...	...	...	...	...	...	...	...
South	2	1	2	1	...	1	4	2	...	...	...	...
S. S. W.	...	...	...	...	...	...	...	...	...	...	...	...
S. W.	13	1	5	11	13	43	12	13	18	7	2	4
W. S. W.	...	...	...	...	...	...	...	...	...	...	...	...
West	1	...	11	7	2	1	2	6	...	4	1	1
W. N. W.	...	...	...	...	...	...	...	...	...	...	...	...
N. W.	13	28	14	11	24	4	4	4	3	7	10	19
N. N. W.	...	...	...	...	...	...	...	...	...	...	...	...
Calm	68	57	62	57	56	35	55	67	71	69	92	90
Mean diurnal velocity in miles ...	59·3	75·5	84·3	67·8	111·2	118·8	87·4	62·4	48·4	33·4	29·1	21·5

TABLE XXXIV.—WIND RESULTANTS FOR 1873.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
Port Blair	77	N 25 E	74	N 34 E	70	N 23 E	22	S 71 W	30	S 83 W	89	S 51 W	92	S 39 W	60	S 17 W	78	S 19 W	49	S 4 E	52	N 67 E	59	N 54 E
Nancowry	...	.....	...	.....	...	.....	...	.....	56	S 83 W	69	S 59 W	95	S 84 W	95	S 77 W	93	S 62 W	93	S 65 W	...	.....	75	S 70 E
Madras	75	N 62 E	74	N 85 E	86	S 48 E	67	S 35 E	87	S 22 E	56	S 75 W	68	S 73 W	50	S 64 W	37	S 45 W	41	N 47 W	46	N 2 E	70	N 19 E
Vizagapatam	24	S 4 W	38	S 45 E	48	S 42 W	38	S 42 W	62	S 49 W	50	S 57 W	88	S 82 W	58	S 59 W	56	S 65 W	35	N 66 E	50	N 62 E	46	N 75 E
Akyab	57	N 44 W	53	N 51 W	53	S 86 W	58	S 63 W	55	S 77 W	61	S 8 E	76	S 6 W	62	S 4 W	38	S 3 E	15	S 80 E	34	N 2 E	45	N 20 W
False Point	8	N 52 W	17	S 26 W	55	S 38 W	78	S 38 W	78	S 47 W	70	S 45 W	84	S 75 W	30	S 44 W	53	S 58 W	71	N 35 E	61	N 14 E	57	N 30 E
Cuttack	20	N 71 W	23	S 36 W	51	S 29 W	72	S 12 W	48	S 19 W	57	S 42 W	69	S 59 W	10	S 67 W	32	S 54 W	41	N 27 E	29	N 12 W	29	N 19 E
Saugor Island...	19	N 43 W	30	N 89 W	59	S 44 W	75	S 16 W	66	S 20 W	78	S 12 W	64	S 43 W	46	S 1 W	56	S 30 W	56	N 42 E	56	N 4 W	56	N 17 E
Chittagong	48	N 44 W	41	N 64 W	28	S 88 W	32	S 9 W	39	S 12 W	62	S 34 E	70	S 52 E	45	S 40 E	35	S 42 E	37	N 45 W	76	N 34 W	74	N 27 W
Calcutta	36	N 7 W	44	N 71 W	47	S 29 W	73	S 10 W	55	S 27 W	70	S 10 W	68	S 9 W	64	S 7 E	51	S 13 W	63	N 77 E	57	N 41 E	69	N 49 E
Burdwan	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	27	S 19 W	55	N 21 E	79	N 7 W	66	N 17 W
Jessore	40	N 68 W	40	N 80 W	54	S 59 W	62	S 9 W	70	S 7 W	76	S 14 E	74	S 12 E	65	S 25 E	67	S 15 E	46	N 45 E	30	N 10 E	65	N 25 W
Dacca	29	N 57 W	45	W	38	S 24 W	61	S 7 E	67	S 8 E	85	S 7 E	82	S 21 E	69	S 10 E	56	S 9 E	25	N 3 E	38	N 18 W	37	N 25 W
Silchar	15	S 68 E	27	S 85 E	34	N 86 E	24	N 39 E	15	N 45 E	19	N 23 W	...	N 19 E	6	S 4 E	15	N 35 E	11	S 65 E	47	N 65 E	27	N 88 E
Hazarecbagh	61	N 53 W	82	N 55 W	51	N 79 W	36	N 60 W	31	N 66 W	38	S 89 W	9	W	10	S 60 E	16	N 14 W	54	N 36 W	66	N 24 W	58	N 50 W
Berhampore	32	N 52 W	38	N 75 W	15	S 44 W	35	S 11 E	40	S 4 W	55	S 18 E	62	S 45 E	48	S 14 E	32	S 31 E	27	N 5 W	59	N 4 W	48	N 14 W
Gya	20	N 67 W	33	N 74 W	16	N 48 W	...	.....	...	.....	...	.....	...	.....	32	S 87 E	12	N 69 E	5	N 34 W	54	N 14 W	15	N 16 E
Patna	29	N 45 W	...	.....	...	.....	...	.....	20	N 34 W	24	N 46 E	71	S 82 E	42	S 75 E	10	S 14 W	21	S 69 W	32	S 60 W	52	S 71 W
Monghyr	45	S 66 W	55	S 68 W	4	N 59 E	43	N 69 E	5	N 16 E	45	N 65 E	63	S 88 E	6	S 47 E	19	S 39 E	35	S 86 W	40	N 84 W	56	S 55 W
Darjeeling	39	S 77 W	36	S 75 W	38	W	30	S 73 W	33	S 36 W	38	S 27 W	15	S 12 E	30	S 7 E	23	S 5 E	18	S 74 W	20	S 45 W	33	S 8 W
Goalpara	53	S 82 E	36	S 80 E	53	S 74 E	48	S 39 E	20	S 5 W	8	N 74 E	49	S 69 E	11	S 52 W	23	S 50 E	42	N 73 E	73	N 87 E	49	N 81 E
Benares	44	N 85 W	61	N 89 W	45	S 80 W	52	S 81 W	20	N 77 W	24	S 80 W	7	S 45 W	6	S 39 E	10	S 30 W	72	S 86 W	31	S 76 W	51	S 71 W
Roorkee	7	S 16 W	12	N 18 W	7	S 34 W	11	S 7 E	7	N 56 W	35	S 13 W	35	S 28 E	23	S 11 E	23	S 9 E	11	S 12 E	3	S 26 E	9	N 71 W

TABLE XXXV.—WIND RESULTANTS OF ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND BERAR FOR 1873.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
Goruckpore	...	N 87 W	...	S 83 W	...	S 34 W	...	N 63 W	...	N 63 W	...	S 72 E	...	S 66 E	...	S 65 E	...	S 22 W	...	S 77 W	...	N 77 W	...	W
Jhansi	...	S 71 W	...	S 55 W	...	S 44 W	...	S 48 W	...	S 59 W	...	S 45 W	...	S 65 W	...	N 7 E	...	N 15 W	...	N 3 W	...	N 41 E	...	N 41 E
Allahabad	...	N 80 W	...	S 81 W	...	N 77 W	...	N 77 W	...	N 49 W	...	N 89 W	...	S 63 W	...	N 77 E	...	S 65 E	...	N 68 W	...	N 66 W	...	N 78 W
Agra	...	N 80 W	...	S 87 W	...	N 3 W	...	N 87 W	...	N 75 W	...	N 80 W	...	N 61 E	...	S 77 W	...	N 26 W	...	S 86 W	...	N 71 W	...	N 67 W
Bareilly...	...	N 61 W	...	N 64 W	...	S 44 W	...	N 82 W	...	N 48 W	...	S 77 E	...	S 80 E	...	S 30 E	...	N 15 E	...	N 66 W	...	N 47 W	...	N 80 W
Meerut	...	N 42 W	...	N 45 W	...	S 39 W	...	N 44 W	...	N 3 E	...	N 41 W	...	N 37 E	...	N 8 W	...	N 7 W	...	N 42 W	...	N 45 W	...	N 41 W
Jubbulpore	32	N 31 W	27	N 14 W	8	S 5 W	12	N 74 W	36	N 26 W	50	S 86 W	59	S 88 W	61	S 85 W	65	W	41	N 85 E	23	N 6 E	32	N 20 E
Nagpore	27	N 83 E	56	N 30 E	26	S 77 E	39	N 51 W	42	N 79 W	59	N 80 W	76	N 73 W	51	N 64 W	65	N 52 W	79	N 34 E	71	N 71 E	47	N 41 E
Saugor	29	N 38 W	34	N 27 W	25	N 20 W	33	N 68 W	40	S 78 W	71	S 88 W	85	N 89 W	59	N 88 W	66	N 77 W	45	N 15 W	30	N 48 E	36	N 85 E
Hoshungabad...	23	N 49 W	12	N 26 E	20	N 72 W	28	W	35	S 84 W	83	S 61 W	86	S 56 W	59	S 61 W	69	N 53 W	15	N 4 E	21	N 71 E	51	N 72 E
Chanda...	22	N 13 W	23	S 73 E	19	N 38 W	40	N 18 W	21	S 71 W	51	N 67 W	67	N 68 W	48	N 41 W	57	N 54 W	61	N 60 E	58	N 83 E	46	S 88 E
Raipore...	29	N 48 W	16	S	18	S 8 W	37	S 74 W	39	W	79	S 84 W	89	S 81 W	52	S 81 W	44	S 35 W	63	N 78 E	86	N 53 E	73	E
Seoni	21	S 67 E	27	N 17 E	18	S 83 E	44	N 38 W	12	S 50 W	56	S 75 W	91	N 88 W	25	N 54 W	43	N 45 W	74	N 23 E	49	N 67 E	43	N 43 E
Akola	70	N 6 E	76	N 73 E	38	S 71 W	55	N 36 W	62	N 64 W	87	S 87 W	89	S 79 W	89	W	63	S 88 W	38	N 47 E	...	.....	...	.....
Omraoti	16	N 34 E	45	N 27 E	48	N 26 E	24	N 10 E	62	S 83 W	82	N 75 W	86	N 52 W	83	N 53 W	91	N 41 W	70	N 3 W	...	.....	...	.....

TABLE XXXVI.—AVERAGE WIND RESULTANTS OF SEVERAL STATIONS.

STATIONS.	Years.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
		%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.	%	Dir.
Port Blair	6	80	N 39 E	73	N 43 E	65	N 53 E	34	N 80 E	52	S 40 W	84	S 37 W	95	S 43 W	87	S 41 W	76	S 39 W	25	N 23 E	62	N 55 E	59	N 45 E
Madras	6	73	N 43 E	59	N 88 E	77	S 50 E	72	S 40 E	60	S 14 E	41	S 54 W	55	S 59 W	47	S 57 W	35	S 41 W	65	N 39 W	58	N 20 E	66	N 25 E
Vizagapatam	4	47	S 74 E	40	S 22 E	52	S 45 W	53	S 39 W	57	S 42 W	55	S 50 W	76	S 74 W	57	S 69 W	39	S 33 W	27	S 78 E	57	N 74 E	55	N 77 E
Akyab	5·6	38	N 26 W	50	N 21 W	33	N 47 W	35	N 83 W	30	S 57 W	56	S 1 E	75	S 9 E	57	S 1 E	38	S 9 E	14	S 39 E	35	N 14 W	40	N 15 W
False Point	6	30	N 58 E	20	S 29 W	56	S 50 W	77	S 42 W	75	S 34 W	54	S 47 W	68	S 64 W	49	S 64 W	38	S 39 W	31	N 49 E	56	N 25 E	56	N 32 E
Cuttack	6	16	N 80 E	16	S 10 W	41	S 17 W	54	S 10 W	63	S 1 E	57	S 25 W	55	S 41 W	43	S 45 W	25	S	29	N 35 E	42	N 14 W	33	N 12 E
Saugor Island	5·6	27	N 5 W	28	S 58 W	61	S 43 W	72	S 24 W	76	S 19 W	70	S 19 W	64	S 29 W	54	S 30 W	56	S 10 W	14	N 18 E	53	N 6 E	43	N 19 E
Chittagong	6	50	N 28 W	32	N 38 W	28	S 69 W	33	S 17 W	40	S 14 W	55	S 26 E	68	S 43 E	54	S 36 E	41	S 38 E	12	N 22 W	54	N 14 W	61	N 23 W
Calcutta	10	40	N 38 W	23	S 79 W	47	S 33 W	74	S 3 W	65	S 12 E	58	S 5 E	65	S 12 E	55	S 18 E	40	S 30 E	13	N 53 W	58	N 19 W	60	N 27 W
Jessore	6	57	N 18 W	39	N 53 W	37	S 30 W	52	S 11 W	61	S 12 E	60	S 16 E	75	S 15 E	62	S 14 E	63	S 21 E	30	N 59 E	52	N 6 E	63	N 9 W
Dacca	6	40	N 39 W	35	S 79 W	49	S 24 W	53	S 8 E	63	S 23 E	78	S 20 E	84	S 22 E	74	S 12 E	59	S 14 E	10	N 66 E	38	N 18 W	47	N 31 W
Silchar	4·5	35	S 13 E	32	S 24 E	23	S 39 E	21	S 64 E	5	N 84 E	2	N 79 E	2	S 13 W	16	S 33 W	7	S 22 W	13	S 17 E	26	S 75 E	39	S 53 E
Hazareebagh	5·6	56	N 61 W	82	N 60 W	61	N 78 W	38	N 76 W	18	S 85 W	25	S 27 W	21	S 17 E	20	S 43 W	26	S 52 E	40	N 57 W	57	N 46 W	61	N 56 W
Berhampore	6	55	N 34 W	40	N 64 W	42	S 81 W	28	S 1 W	40	S 41 E	49	S 31 E	60	S 43 E	43	S 45 E	41	S 56 E	15	N 9 W	49	N 28 W	59	N 26 W
Patna	5·6	45	N 70 W	41	N 61 W	53	N 60 W	36	N 13 W	38	N 30 E	35	N 52 E	36	N 76 E	19	S 51 E	34	S 83 E	9	N 29 W	25	N 46 W	41	N 70 W
Monghyr	4·5	52	S 70 W	39	S 72 W	29	W	23	N 55 W	40	N 74 E	63	N 85 E	57	S 86 E	23	S 60 E	38	S 80 E	14	S 81 W	46	N 85 W	54	S 67 W
Darjeeling	6	20	S 62 W	24	S 64 W	25	S 72 W	26	S 77 W	21	S 47 W	21	S 12 W	27	S 37 E	24	S 22 E	15	S 9 E	18	S 68 W	14	S 54 W	21	S 28 W
Goalpara	5	35	S 84 E	35	S 87 E	36	N 87 E	44	S 81 E	48	S 79 E	27	S 73 E	31	S 55 E	18	S 3 W	26	S 68 E	46	S 85 E	67	S 87 E	55	S 86 E
Benares	9	30	N 72 W	37	N 84 W	40	N 81 W	40	N 77 W	20	N 26 W	8	N 30 W	8	S 12 E	7	S 14 W	3	S 49 E	32	N 78 W	34	N 75 W	21	N 79 W
Roorkee	9	15	N 61 W	23	N 21 W	24	N 58 W	11	N 76 W	8	S 30 W	9	S 3 E	33	S 42 E	23	S 39 E	4	S 24 W	8	S 29 E	4	S 13 E	12	N 64 W
Agra	6·7	27	N 56 W	36	N 62 W	37	N 55 W	29	N 79 W	26	N 68 W	21	N 48 W	20	N 48 E	14	S 37 E	17	N 24 W	27	N 85 W	21	S 78 W	20	N 65 W
Jhansi	3·6	20	N 19 W	20	N 70 W	12	S 40 W	28	S 84 W	33	N 62 W	18	N 72 W	33	S 81 W	17	W	38	N 51 W	28	N 59 W	25	N 53 W	20	N 8 W
Ajmere	6·7	10	N 62 E	14	S 75 W	21	S 46 W	52	S 69 W	73	S 59 W	67	S 60 W	69	S 63 W	53	S 68 W	84	S 68 W	48	S 87 W	11	N 37 W	8	N 73 E
Nagpore	5	34	N 87 E	18	N 51 E	12	S 50 E	23	N 74 W	44	N 48 W	52	N 79 W	70	S 89 W	50	N 73 W	41	N 39 W	66	N 35 E	65	N 66 E	57	N 67 E
Jubbulpore	5	26	N 6 W	17	N 25 W	18	S 72 W	19	N 78 W	37	N 64 W	63	S 81 W	67	S 84 W	66	S 78 W	36	N 76 W	10	N 20 E	24	N 36 E	22	N 43 E
Seoni	4·5	21	N 87 E	12	N 13 W	6	N 54 E	23	N 77 W	30	N 49 W	41	S 72 W	67	S 72 W	44	S 81 W	33	N 55 W	59	N 18 E	55	N 52 E	37	N 22 E

TABLE XXXVII.—MEAN DIURNAL MOVEMENT OF WIND AT ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND CEYLON IN 1873.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Allahabad	.....	.....	46·0	.....	.....	59·9	.....	.....	66·0	18·0	14·5	17·0	.....
Lucknow	56·0	78·0	99·0	85·0	125·0	91·0	82·0	53·0	63·0	90·0	13·0	38·0	72·7
Agra	85·0	86·0	109·0	115·0	129·0	122·0	87·0	92·0	76·0	39·0	37·0	34·0	84·2
Bareilly	41·0	72·0	104·0	78·0	117·0	103·0	69·0	76·0	68·0	30·0	26·0	25·0	67·4
Meerut	.....	.....	.....	.....	.....	.....	.....	62·0	57·0	.....	24·0	40·0	.....
Akola	108·0	104·0	105·0	214·0	175·0	200·0	195·0	159·0	198·0	73·0	.....	.....	.....
Omraoti	76·2	85·0	71·0	87·7	106·3	179·9	188·6	132·7	144·9	60·7	.....	.....	.....
Jubbulpore	47·2	51·6	46·9	56·2	83·1	155·8	135·6	90·4	116·5	56·4	59·7	63·0	80·2
Nagpore	60·8	.....	68·0	126·4	143·2	177·9	219·4	141·7	159·4	101·7	86·8	76·0	.....
Saugor	45·7	58·1	48·6	59·6	60·1	152·9	140·9	106·6	79·7	24·1	30·2	24·5	69·2
Hoshungabad	52·5	76·7	55·0	65·9	67·3	110·5	89·8	61·7	57·1	31·0	51·1	62·6	65·1
Chanda	28·8	45·0	71·0	72·5	95·1	122·5	146·7	81·0	86·7	47·8	39·5	42·2	73·2
Raipore	55·2	54·3	89·2	123·3	135·4	170·6	203·3	103·5	168·1	56·7	50·1	40·6	104·2
Seoni	43·4	38·4	63·7	80·9	99·6	126·3	127·1	107·4	99·9	62·8	45·1	51·9	78·9
Jaffna	27·1	31·1	43·9	240·3	241·9	335·3	357·9	262·6	312·5	216·1	67·9	71·0	184·0
Trincomalee	239·2	194·3	167·5	228·9	228·8	522·1	495·7	353·4	360·0	312·7	170·4	184·7	288·1
Colombo	132·1	99·4	112·5	111·3	106·4	225·7	144·4	158·1	131·3	166·8	88·9	148·1	135·4
Galle	48·7	64·5	88·2	171·4	175·1	222·6	189·4	168·6	195·7	240·6	71·8	76·2	142·7

TABLE XXXVIII.—AVERAGE DIURNAL MOVEMENT OF WIND.

	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.	Years.	Miles.
Madras	3	209·7	3	181·7	3	206·2	3	261·5	3	286·0	3	292·3	3	273·4	3	229·0	3	218·4	3	170·9	3	222·1	3	224·9
Vizagapatam	2	51·8	2	68·1	2	98·2	2	124·9	2	125·7	2	120·7	2	117·5	2	74·2	2	73·3	2	64·5	2	82·6	2	60·4
Cuttack	2	42·3	2	60·9	2	86·3	3	125·9	3	129·0	3	122·3	3	95·9	3	73·0	3	67·4	3	52·8	3	33·8	3	35·8
Saugor Island	3	123·6	4	189·1	4	238·4	4	383·5	4	339·3	3	308·9	3	235·1	3	251·5	3	235·4	3	130·6	3	112·1	4	125·2
Chittagong	4	127·2	5	133·4	5	155·1	5	184·0	5	174·5	5	192·2	5	190·5	5	155·8	5	129·4	5	92·3	5	100·6	5	112·8
Calcutta	4	96·4	5	104·3	6	135·7	6	201·5	6	204·7	6	199·4	6	150·0	6	129·6	6	127·7	6	86·1	6	83·1	6	91·0
Jessore	2	43·9	3	51·4	3	75·6	2	118·5	2	118·8	2	150·3	2	116·1	2	97·4	3	73·4	3	51·1	2	44·6	2	49·9
Dacca	5	50·0	5	64·1	5	106·0	5	150·0	5	155·4	5	211·3	5	197·9	5	148·6	5	124·7	5	58·9	5	38·9	5	44·2
Silchar	3	75·6	3	96·3	2	103·2	2	92·7	2	84·4	2	89·5	3	91·3	3	91·7	3	85·8	3	69·9	3	73·4	3	59·5
Hazareebagh	5	99·8	5	125·8	5	149·2	5	164·8	5	190·4	5	206·2	5	178·1	5	148·5	5	141·4	4	102·8	5	84·3	5	84·5
Berhampore	3	36·5	3	42·3	4	61·7	4	98·6	4	114·7	4	144·3	4	112·5	4	85·6	4	81·4	4	44·3	4	31·9	4	26·1
Gya	2	51·1	2	59·2	3	79·5	2	71·2	2	72·9	2	85·6	2	76·0	3	51·7	3	65·9	3	30·8	3	33·4	3	32·5
Patna	3	60·5	2	72·8	2	96·2	2	144·2	2	138·7	2	90·3	2	81·2	3	84·0	3	95·9	3	54·7	3	52·4	3	44·0
Monghyr	3	56·7	3	61·3	3	74·2	3	99·9	3	91·7	3	97·2	3	79·0	3	76·7	3	55·7	3	30·7	3	31·7	3	36·3
Goalpara	4	85·6	4	118·0	5	159·2	5	185·5	5	176·5	5	130·3	5	104·3	5	109·7	4	119·5	4	93·7	4	107·2	4	84·5
Benares	5	51·8	5	70·7	5	74·2	5	70·4	5	91·5	5	96·9	5	93·6	5	76·7	5	66·9	5	51·1	5	24·7	5	38·5
Roorkee	6	44·2	6	55·0	5	56·1	5	62·5	5	79·2	6	84·0	6	66·6	6	49·4	6	34·7	6	23·3	7	22·2	8	27·2
Nagpore	4	64·0	3	80·9	4	86·0	5	117·1	4	147·7	4	167·0	4	172·2	5	126·5	5	118·2	5	85·9	5	71·8	5	62·3
Jubbulpore	4	59·5	4	55·7	4	71·9	5	84·5	5	113·2	5	144·8	5	130·2	5	110·7	5	90·4	5	50·9	4	47·1	5	52·5

It was observed in the report on the meteorology of 1872, that in the last two months of that year westerly winds were as remarkably deficient as they had been during the greater part of the year previously, "while at stations in and near the Himalaya southerly winds were as unduly prevalent as they had been previously in the Central Provinces," and that "there was therefore an apparent failure of the winter monsoon as there had been previously of the south-west monsoon in Eastern India." To the above I should add, that in December the winds were, however, more westerly than in November. In January, with a general fall of pressure in Bengal, and a rise in Madras and the south of the Bay, the northerly winds that had prevailed in the delta during the last two months died away. At Vizagapatam the prevalent direction became south, while in Behar and Lower Bengal it was chiefly west, but unsteady and variable. In the two following months the winds of Bengal and Northern India generally were westerly in the interior and southerly on the coast and in Orissa, as is usually the case; but in Eastern Bengal easterly winds were very preponderant; and even in the delta they were felt more frequently than is usual in the month of March. In the Central and Upper Provinces the winds seem to have been very variable, so that it may be inferred that the prevailing direction at each station was determined chiefly by local causes.

In April the coast winds were as steady from the south as usual; but in Northern Bengal and Behar there was still an excess of easterly winds, especially indicated by the registers of Monghyr and Berhampore. At Roorkee also, where in this month there is, as a rule, a certain excess of westerly winds, south-easterly winds somewhat predominated. At Benares the winds were more southerly than usual. In the south of the Bay the winds at Port Blair were westerly, whereas they are usually easterly in this month, and in May, when in ordinary years they predominate from south-west, they became last year both at Port Blair and the Nicobars almost due west. This was probably dependant on the barometric depression in the south-east of the Bay, which is shown by the Port Blair barometer in April, and by that of Nancowry in May and the following months.

The month of June was remarkable for the unusual prevalence of westerly winds throughout Northern and Southern India. This anomaly is shown most distinctly by Benares, Hazareebagh and Cuttack; also at Vizagapatam and Madras. At Silchar, also, there was an excess of westerly winds; and it is to be noted that, at this latter station, northerly winds predominated over southerly both in this and the preceding month; which is not usually the case. An excess of westerly winds continued to be felt both in the Upper Provinces and in the Peninsula to the south of the Ganges, and as far east as Calcutta and Saugor Island, through the month of July.

In August the winds became easterly in Bengal and the North-Western Provinces; a change which in most years is characteristic of September, and indicates the approaching close of the monsoon. In this latter respect the change was not fallacious, for in September the winds became unsteady and conflicting, and the rains ceased in Northern India.

In September, on the other hand, the winds were less easterly than usual in the Lower Provinces; more especially at Benares, in Behar, at Cuttack, Hazareebagh, Saugor Island, Calcutta, and Berhampore. In the eastern provinces the difference was less marked. But at Roorkee, south-easterly winds were unusually prevalent; which probably accounts for the greater rainfall at that station.

In October the winds were northerly to an unusual degree in Central India, Bengal Proper, and Orissa, while in Behar they were from the west and somewhat southerly. At Roorkee they were still south-easterly somewhat more than usual. And in the two following months these peculiarities were equally strongly marked, except that in Central India, in the country intermediate

between Nagpore and Orissa, north-east became the prevalent direction. The southerly tendency of the winds in Behar and at Benares, as well as at Darjeeling in December, was very strongly marked.

The movement of the air was, throughout the year, below the average at Silchar, and in most months at Dacca and Goalpara. It was considerably above the average throughout the year at Roorkee, and in most months at Benares, Monghyr, Hazareebagh, and Berhampore; also, with the exception of the first three months and May, at Nagpore. In January the movement was generally low; in March and April rather above the mean; in May considerably below it in the delta and to the eastward, above it to the west, and in the Ganges Valley [Berhampore, Monghyr, &c.]. This distinction was more or less preserved in July and throughout the rains. In September especially the differences were considerable between the peninsular region on the one hand, where the movement of the air was excessive, and the eastern districts and delta on the other, where (with the exception of Calcutta and Berhampore) it was considerably lower than usual. In November there was generally a brisker movement of the air, and the same in December, with the exceptions of Chittagong, Silchar, Berhampore and Roorkee.

SUMMARY.

The principal meteorological characteristics of the past year were an excessive temperature, in Oude and the North-Western Provinces more especially; an unusually low pressure of the atmosphere in the same region, and probably also in the south-east corner of the Bay of Bengal, while in Eastern Bengal the pressure was persistently and abnormally high; great unsteadiness in the winds indicating the predominance of local causes in affecting the air currents, while the normal monsoon current from the south-west set in nearly a month later than usual, and ceased nearly a month earlier; lastly, a general deficiency of moisture in the atmosphere, as is betokened both by the psychometric observations, the comparative absence of cloud, and the great deficiency of rainfall.

These latter characters prevailed over the whole land region treated of in this report, with certain rare local exceptions. In the absence of any information from other parts of India, beyond that afforded by casual paragraphs in the newspapers, it is impossible to say whether such was also the case elsewhere: whether the deficiency of vapour was general all over India and the countries watered by the monsoon rains; or whether it was a local phenomenon arising from the fact that the usual supply of vapour from the equitorial seas was carried to some neighbouring region by a deflection of the monsoon, or precipitated over the place of its origin. That Burmah has not suffered from any deficiency of rain may be inferred from the fact that its rice crops have been unusually abundant and have afforded a large surplus for the famine-stricken population of Bengal. In the Punjab also, there has been no deficiency, to judge from the official reports, and I have pointed out in the foregoing discussion, that at Jhansi, Agra, Roorkee, and one or two other places along the southern margin of the Gangetic drainage basin, the rainfall has been unusually copious. These latter cases, however, of local excess in a comparatively dry region can scarcely be considered as compensating for the deficiency over the more extensive and usually well-watered countries here treated of. The case of Burmah, however, is very different; and with reference to this, the barometric depression indicated both by the Port Blair observations and more decidedly by those of Nancowry, may have had a most important influence in directing the vapour-charged winds towards that region. Of the extent and intensity of this depression, the present scanty and not quite satisfactory information affords us no means of forming an adequate judgment. But supposing the elevation of the Nancowry barometer to be correctly given, the local barometric depression which it indicates was considerable, and by the well-known laws of anemometry, its effect would be to deflect the monsoon current of the Bay of Bengal towards Sumatra, and the Tenasserim and Burmah coasts. Such a deflection would go far to account for the deficient rainfall from that

portion of the monsoon that comes from the Bay of Bengal, and it has been shown that the failure was greater in the area dependant on this branch of the current than in that which receives its rain from the west coast of India.

I think it not improbable then, that the dryness of the year was in great part due to a persistent barometric depression in the south-east of the Bay, possibly extending also to the eastward; but the irregular depression in the upper part of the Gangetic Valley and the high pressure in Eastern Bengal were certainly also influential in the result, as has already been shown at a previous page of the report.

That such persistent barometric irregularities must exercise a very important influence on the winds follows from the elementary laws of mechanics. The inference is to some extent verified by the wind observations as shown on the accompanying charts; but it must be borne in mind that in these charts no account is taken of the probably varying velocity of the wind in different azimuths, each observation of direction having an equal value assigned to it, so that the real resultant motion of the air is indicated only roughly and approximately by the arrows. To obtain a knowledge of the real movement of the air, self-registering anemometers are required, giving a continuous simultaneous record of direction and velocity; and such instruments have hitherto been wanting.*

An objection has been raised to the assumption that persistent barometric irregularities are the causes of the wind's deviation from its normal course by persons who argue from the well-known fact that in Europe the barometer falls with warm, damp, south-westerly winds, and rises with those from an opposite quarter. Therefore, it is argued, the winds are themselves the causes of barometric changes, and we have no right to conclude that such barometric anomalies as those here referred to are the cause, and not perhaps the effect, of the wind currents. But such objectors lose sight of the fact that the barometric changes which they adduce in illustrating are fugitive, lasting only from a few hours to a few days at the utmost, and also of the very familiar mechanical truth that small forces (such as are these differences of pressure) must act for a considerable time in order that their effects may be appreciable and distinct. This condition is fulfilled in India, where, as I have shown, the same distribution of pressure lasts with but slight variation through many months. And the charts of average winds and pressure distribution show that, in fact, the direction of the former are exactly such as would be determined by the latter. It might therefore fairly be expected that when the distribution of pressure is abnormal, the winds should be rendered abnormal in consequence; and as far as our imperfect data allow of a judgment on the point, such appears to be the case. For a complete decision of the question, how far the barometric pressure depends on the quarter from which the wind blows, a reduction of the barometric observations in the form of baric wind roses is required. Such a reduction has lately been effected by six years' observations of the Calcutta winds. The results have not been fully discussed, but it is evident that the differences exhibited in the baric wind rose for most months of the year are extremely small, and it seems probable that a part of these differences are due to certain wind directions becoming prevalent in consequence of certain local features of barometric pressure. I do not think, then, there is any reason to doubt that a certain distribution of static pressure (from whatever cause arising) is the determining cause of the wind currents; and that in 1873 the barometric irregularities already described were in part the cause of the unsteadiness of the monsoons, and the deficiency of the vapour supply. But there may have been and probably were other causes operating of which we are ignorant.

The question of the causes of these irregularities is one which can hardly be discussed with profit until something more is known of the manner and rate at

* The first has lately been set up over the Calcutta Meteorological Office.

which heat and vapour are diffused from the lower to the upper strata of the air. It has been shown elsewhere that the diffusion of a high temperature throughout the lower 10,000 or 12,000 feet of the atmosphere is the most important cause of the decrease of pressure between January and June in India; but it has also been shown that water vapour is a important agent in this process, and that in a dry atmosphere the heat is restricted to the lowest strata, the agent of diffusion being wanting. But what quantity of vapour is necessary to effect this diffusion, and indeed what condition of surface temperature and cloudiness coincide with the production of a minimum pressure, remain yet to be discovered.

This is but one of a vast number of most important inquiries which present themselves for solution at the hands of Indian Meteorologists.

DESCRIPTION OF PLATES.

Plates I to III exhibit side by side the distribution of pressure and temperature and the prevalent wind directions in Eastern India and the Bay of Bengal in three months of the year; 1st, as obtained from the average of several years; and 2nd, as they were in 1873. The distribution of pressure is shown by thick red lines drawn through places at which the pressures at sea level are equal (isobaric lines) and showing increments of 0·05 inch. The value of each line is indicated in figures, and the signs + and — show on which side respectively the pressure rises and falls. The distribution of temperature is shown in like manner by (isothermals) thin red lines indicating increments of 5° Fahr. drawn through all places that have the same sea level equivalent of temperature. In reducing the observed pressures and temperatures to sea level, the same course has been followed as in drawing up the tables V and XI in the foregoing report.

The wind arrows represent the resultants as given in Tables XXXIV and XXXVI, a length of 1½ inches being taken to represent 100, and all less lengths in the same proportion.

Plate IV represents the average distribution of rainfall for the whole year, and that in 1873, by means of ishyetic lines or lines of equal precipitation. The lines represent increments of 10 inches. Quantities above 100 inches in the average chart or 70 inches in the chart for 1873 are not distinguished.

STORMS.

The only report of any cyclone that has reached me during 1873 is contained in the following paragraph published in one of the daily newspapers: "The brig *Foam*, which put back to Coconada on the 7th instant (November), whence she had sailed on the 27th October, reports having met with a severe cyclone on the 3rd November in lat. 15° 30′ N., long. 85° E. The worst part of the storm lasted about 14 hours."

REPORT

OF THE

METEOROLOGICAL REPORTER

TO THE

GOVERNMENT OF BENGAL.

METEOROLOGICAL ABSTRACT

FOR THE YEAR

1874.

By W. G. WILLSON, M.A., L.C.E.,

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METEOROLOGICAL ABSTRACT FOR 1874.

INTRODUCTORY REMARKS.

THE following report, which gives the meteorological results for 1874, the eighth year since the establishment of the department in 1867, is framed on the model of its predecessors. It comprises general meteorological returns, more or less complete, for sixteen stations in Bengal, three in Assam, two in Madras, one in Arakan, two in the Bay of Bengal, and two in the North-Western Provinces. In addition to the above, there is given, as in former years, a more or less complete summary of the registers communicated by the meteorological superintendents of other provinces. The tables of average monthly pressure, temperature, &c., &c., as given in former reports, have been corrected by the further data available up to the end of 1874. In addition there is now given for several stations a table showing the wind observations of each month, for several years, classified to eight points of the compass and reduced to percentages. The wind observations of 1874, similarly classified and reduced, are exhibited side by side with these averages. In the present report a change has also been introduced in the tables of average rainfall, which, as now given, show the average monthly rainfall for all stations which have furnished registers for four years or longer. An examination of the characteristics of rainfall in past years has convinced me that it is only by comparisons for periods at least not greater than a month that many of the most important peculiarities of rainfall distribution can be detected.

It has been the custom for the last few years to include the additional data from other provinces, referred to above, in the Bengal report with the view of attempting to account for the meteorological peculiarities of each year, and in particular the peculiarities in the distribution of the monsoon rainfall. A similar attempt will be made in the following pages as regards the past year. The uncertainty, however, respecting the elevations and instrumental errors of the barometers at many stations, the want of uniformity in the conditions under which temperature data have been registered, and the absence of reliable information regarding the meteorology of the Punjab, Western India, Southern India, and British Burmah, have rendered anything like a complete and satisfactory discussion, not only of the distinguishing characteristics of different seasons, but also of the normal distribution of pressure and temperature, as connected with the normal courses of the rain-bearing currents, impossible. It seems clear that before any very complete success can be hoped for as regards the explanation of the causes of the monsoons, and the peculiarities in the distribution of rainfall in certain seasons, a more or less accurate knowledge will be required of the normal situations of the isobaric and isothermal lines, not only for limited areas, but for the whole of India and the neighbouring seas. And it is only when such a knowledge shall have been acquired that any attempt, not merely an empirical deduction, but founded on physical principles, can be made to predict the probable courses of certain seasons from pre-existing meteorological peculiarities. It has hitherto been only possible to lay down, with any approach to accuracy, the courses of the isobaric and isothermal lines for a limited portion of Northern India. The Meteorological Department, which has recently been established under the Government of India, and which will be enabled to introduce uniformity in the systems of meteorology in different provinces, and to secure the reductions of all observations to the same standards, may be expected soon to afford, for the first time, data for a complete discussion of the phenomena of the monsoons, and their peculiarities, in so far as they are connected with local causes.

That the meteorological conditions of different years are characterized by marked local peculiarities in the distribution of pressure and temperature there appears to be no doubt. That these peculiarities, whether as cause or effect, are connected with striking variations in the distribution of rainfall is equally certain. And from the little which is yet known of the meteorology of India as a whole there appear to be strong reasons to infer that the characteristics of each year are sufficiently persistent to afford grounds for the hope that some success may be attainable in predicting, at least for some months in advance, the probable course of the seasons.

The meteorology of the past year affords striking contrasts when compared with that of its predecessor. In many respects, however, the atmospheric phenomena were very similar to those in 1872, and in a less degree to those in 1870. The south-west monsoon was remarkable, both at its commencement and at its close, as was also that of 1872, for the number of storms which occurred in the Bay of Bengal. In 1873, on the other hand, but one cyclone was reported in the Bay, and that one was only encountered by a single vessel, and was probably of no great intensity. The peculiarities in the distribution of rainfall during the past year, both as regards locality and time, present almost a complete reversal of the characteristics of the rainfall of 1873, but were very similar to those of 1872, and in a less marked degree to those of 1870. In the commencement of the monsoon, in June, the rainfall was generally very scanty in southern and western Bengal, in the northern parts of Orissa, and on the Arakan Coast; while throughout the whole of Behar, the North-Western Provinces, the Central Provinces, and the north-east of the Assam Valley it was much above the average. In July and the greater part of August the area of deficient rainfall extended further northwards and westwards, including parts of Behar. During this period, throughout the greater portion of the provinces comprising the Lieutenant-Governorship of Bengal, there was an almost complete, and, as far as recent records extend, an unprecedented failure of the monsoon rains. During the same period in 1872 there was a marked, although much smaller, deficiency of rainfall over the greater portion of the same area. On the other hand it may be said that in 1873 the rainfall was almost completely condensed into two months of the year—July and August—when it was in many places much above the average. With the slackening of the monsoon current in 1874 and the advent of variable winds a change took place, and, as in 1872, the rainfall became unusually heavy all over Bengal in the months of September and October. On the other hand the rainy season of 1873 may be said to have ended early in September.

The points of resemblance between the peculiarities of the rainy seasons of 1870, 1872, and 1874, some of which have been briefly noticed above, for the two last-mentioned years, are remarkable, and afford some grounds for the hope that even before the physical causes of such peculiarities shall have been satisfactorily explained some use may be made of them empirically in predicting the probable course of certain seasons for some time beforehand. A forecast of this nature was called for by the Government of India from this office in the latter part of July 1874, when considerable apprehensions were entertained regarding the prospects of the principal rice-crop of the year. A comparison of the peculiarities of the rainfall up to the end of July with those of past years, and the general similarity of the meteorological circumstances with those in 1872, induced me to submit the opinion that the rainfall in the latter months of the monsoon would turn out as favorable as in 1872. A forecast which fortunately was fully realized.

The tables in the following pages give the monthly mean values of the following elements :—

1. Atmospheric pressure.
2. Observed temperature of air.
3. Extreme temperatures of air (self-registered).
4. Temperature of solar radiation.
5. Temperature of grass nocturnal radiation.
6. Vapour tension.
7. Relative humidity.
8. Serenity (porportion of unclouded sky).
9. Rainfall.
10. Number of days of rainfall.
11. Wind direction.
12. Mean diurnal movement of wind.

All the instruments employed have been verified and corrected as far as possible; the registers have all been examined, and the reductions checked in the Meteorological Office; and all observations that are manifestly erroneous have been rejected as in former years.

HOURS OF OBSERVATION.

At stations of the first class, viz., Akyab, False Point, Cuttack, Saugor Island, Chittagong, Dacca, and Darjeeling, the barometer, dry and wet bulb thermometers, and the wind direction, have been observed at 4*h*., 10*h*., 16*h*., and 22*h*., as in former years; the minimum thermometers at 10*h*.; and the maximum thermometers and rain-gauge at 18*h*. At stations of the second class, as well as at Madras, Port Blair, and Nancowry, observations have been recorded only at 10*h*. and 16*h*. At certain stations hourly observations have been recorded on four days in each month with a view of determining, with greater exactitude than hitherto, the diurnal variations of the principal meteorological elements. These are not published in the present report, but it is intended when a sufficient series shall have been accumulated to allow of the deduction of the diurnal variations, to give the mean results of the whole, together with the constants of Bessel's formula for the diurnal variations. It is expected that a complete series of three or four years for each place will give these with sufficient exactness.

STATIONS.

The following table gives the geographical positions of all the stations of observation; also the elevations of the barometers above sea-level, or the elevation of the general ground-level of the station, if the exact elevation of the instrument has not been ascertained. A brief description of the physical geography of each station is appended.

TABLE I.—*Latitude, Longitude, and Elevation of Stations.*

STATIONS.	Latitude, North.	Longitude, East.	Elevation in feet.	How determined.	REMARKS.
Nancowry	8° 0′	93° 46′	134	?	
Port Blair	11° 41′	92° 42′	61	?	
Madras	13° 5′	80° 17′	27	?	Barometer cistern.
Vizagapatam	17° 42′	83° 22′	31	?	
Akyab	20° 8′	92° 57′	21	By spirit level	Ditto.
False Point	20° 20′	86° 47′	18·7	Ditto	Light-house B. M.
Cuttack	20° 29′	85° 54′	80	Ditto	Barometer cistern.
Saugor Island	21° 39′	88° 5′	6	Estimated	Ditto. Approx.
Chittagong	22° 21′	91° 50′	90	By spirit level	Ditto.
Calcutta	22° 33′	88° 21′	18·11	Ditto	Ditto.
Burdwan	23° 14′	87° 54′	102	Ditto	Ditto.
Jessore	23° 9′	89° 7′	20	By barometer	Ditto.
Dacca	23° 43′	90° 27′	35	Measured above ground level. G. L. estimated.	Ditto.
Hazareebagh (1)	24° 0′	85° 24′	1,996 & 2,010	By spirit level to G. T. B. M.	Ditto.
Berhampore	24° 6′	88° 17′	65	Ditto	Ditto. Approx.
Gya	24° 42′	85° 2′	347	By barometer	Ditto.
Dehree	25° 54′	84° 13′	362	By spirit level	Aneroid.
Patna	25° 37′	85° 8′	179	Ditto	Barometer cistern.
Monghyr	25° 22′	86° 30′	160·4	Ditto	Ditto.
Purneah	25° 50′	87° 34′	128	?	
Silchar	24° 49′	92° 50′	88·91	By Trig.	
Goalpara	26° 11′	90° 40′	386	By spirit level to G. T. S. B. M.	Ditto. Ditto.
Sibsagar	26° 59′	94° 40′	332	?	
Darjeeling	27° 3′	88° 18′	6,912	By Trig.	Ditto. Approx.
Benares	25° 20′	83° 2′	262·74	By spirit level	Ditto.
Roorkee	29° 52′	77° 56′	879·7	Ditto	Ditto.

(1) Barometer was removed to the higher level on the 1st June 1874.

Nancowry, an island of the Nicobar group. Horsburg describes it as "about four miles in extent, of triangular form, rugged and uneven, almost covered with wood." The Observatory is on the north of the island, opposite Camorta.

Port Blair.—The penal settlement of the Andaman Islands is situated near the southern extremity of the eastern coast of the larger island. A range of

mountains runs through the island from north to south, protecting Port Blair in some measure from the south-west monsoon. The Observatory is situated on Ross Island, near the entrance of the harbour, having been removed thither from Viper Island.

Madras, situated on the flat alluvial formation of the Coromandel Coast, from beneath which the older crystalline rocks emerge at St. Thomas's Mount and Palaveram (seven and ten miles from Fort St. George). The country rises gradually to the westward, forming the plains of the Carnatic or Payen-ghaut, and the nearest hills of considerable elevation are the Naggery Hills, fifty miles to the north-west. The Observatory is situated in the suburb of Nungambaucum, about three miles from the shore.

Vizagapatam.—This station is situated on the coast, about midway between the Chilka Lake and the delta of the Godavery. It is the only part of the Coromandel Coast at which the hills advance actually to the sea-board. At Vizagapatam they form a promontory, known as the Dolphin's Nose, which encloses a small bay, at the head of which the station is built. The interior is hilly, and covered with jungle, and has a bad reputation for fever.

Akyab, on the coast of Arakan. The station is situated on flat and very low alluvial ground, the delta of the Koladyne River, much of which is flooded in the rainy season. The Arakan Hills, covered with an almost impenetrable jungle, are at a distance of about twenty miles to the north-east of the station; and the harbour, which is formed by the estuary of the Koladyne, is partly closed on the south by a group of islands, the hills of which are 500 or 600 feet in height.

False Point.—The Light-house is a conspicuous land-mark on the coast of Orissa, standing on a prominent point of the Mahanuddy delta. The country around is a dense swampy jungle, intersected with creeks. The nearest hills are those to the west of Cuttack, distant fifty miles. The coast-line trends about north-east and south-west; so that winds from east and south are sea-winds, those from west and north, land-winds.

Cuttack is built on flat alluvial ground at the head of the Mahanuddy delta. The river, one of the largest in the peninsula of India, issues from a narrow hill gorge seven miles to the west of the station, and then divides into two main branches, the Kajouri and the Mahanuddy, in the fork of which Cuttack is situated. To the west and north the country is hilly and much covered with jungle, while to east and south of the station stretches the delta of the Mahanuddy, the boundary of the hill country running parallel with the coast. The alluvial country is chiefly under rice cultivation, with the exception of a strip a few miles in width bordering the coast.

Saugor Island.—The telegraph-station, at which is also the Meteorological Observatory, is situated close to the south-west extremity of Saugor Island (one of the low-lying alluvial islands of the Sunderbuns), and at the point where the Hooghly enters the sea. To the south is the Bay of Bengal; to the west and north-west the estuary of the Hooghly, here about twenty miles broad, with the low marshes of Hidgellee beyond; to the east and north-east stretch the swampy jungles of the Sundurbuns, much of which are flooded at spring tides. Indeed the station itself is below high-water mark, and is protected by a strong dyke from inundation.

Chittagong, on the Arakan mainland, in the extreme north-east corner of the Bay of Bengal, and opposite to the *embouchure* of the Megna, the largest estuary of the Gangetic delta. A small river, the Kurnafoolee, from the Tipperah and Chittagong Hills, forms the port of Chittagong, and enters the

sea three miles below. The station is built on and around the little hills, 100 to 150 feet in height, which rise abruptly from the narrow alluvial belt, and form the broken edge of a more elevated plain, formed of highly inclined (tertiary ?) shales and other sedimentary rocks, which slopes up gradually to the foot of the hills, about twenty miles distant. Thus situated, the station is exposed to the brunt of the south-west monsoon; and the rainfall, as along all the Arakan Coast, is comparatively heavy.

Calcutta is situated sixty-eight miles from the sea, and about the same distance from the western edge of the Gangetic alluvium, which formation stretches away northward to the Hymalaya, four hundred miles distant, and eastward for two hundred miles nearly to the Tipperah Hills. About three miles to the east of Calcutta is the margin of the Salt Lake, a shallow, brackish lagoon in an unfilled depression of the delta. To the south of this, much of the Sunderbun land is still unreclaimed from jungle; but elsewhere the greater part of the country is under rice cultivation. Undrained swamps (jheels) occur in many directions around Calcutta and over all parts of the delta. The climate of Calcutta is therefore moist, and the herbage green throughout the year. The thermometric range, both annual and daily, is less than at stations higher up the country; the latter, in the driest month of the year (March), does not ordinarily exceed 19° or 20°.

Burdwan, about sixty miles to the north-west of Calcutta, situated on the elevated edge of the deltaic alluvium. The country around is level and under rice cultivation, but not so humid as the lower ground to the eastward.

Jessore, nearly in the middle of the delta of the Ganges, and about seventy miles north-east of Calcutta.

Dacca.—Between the former course of the Brahmapootra (still in its lower part a broad channel, the Megna), and that which the river now follows to its confluence with the Pudda or Ganges at Goalundo, is a tract of rising ground elevated nearly 100 feet above the alluvia on either side. This tract is covered with marsh and jungle, growing on a red sandy soil, and is known as the Madhopore jungle. The station of Dacca is situated at its southern extremity, within a few miles of the Megna, on the bank of a small branch of the Brahmapootra. To the south is a network of broad rivers stretching to the sea, and in other directions (except the north) rice-land and grass jungle, which are flooded in the rains. At that time of the year, with the exception of the Madhopore jungle, but little land is visible.

Darjeeling, on a spur of the Singalelah range of the Sikkim Himalaya. The station is built partly on the crest of the ridge, partly on its western and south-western slope. The Electric Telegraph Office, at which the thermometer, barometer, and rain-gauge, are kept, is on the western slope, about 300 feet below the submit of the Jellapahar ridge. The wind-vane is on the crest of the ridge.

Silchar.—This station is situated on the left bank of the Barak River, on an alluvial plain, but little elevated above the flood-level of the river. Ridges of low forest-clad hills run southwards from the river-bank at intervals of six or eight miles; and the intervals are occupied by plains, a great part of which are under water in the rains, and in the dry weather are converted into beels or swamps and (where cleared of forest) rice-fields. Twenty or thirty miles to the south of the station the ridges above-mentioned run up into the hill country of South Cachar, the mean elevation of which is from 1,000 to 2,000 feet; and at ten miles to the north of the river are the Naga Hills (an eastern extension of the Garo and Khasi plateau). About twenty miles to the eastward the valley is nearly closed by the Burrail range.

Goalparah is on the south bank of the Brahmapootra, near the lower termination of the Assam Valley. The Observatory is situated on a hill close to the station, 249 feet above the river* and 386 feet above sea-level. It is described as the only open spot about the station. To the south are the Garo Hills.

Sibsagar, in the north-east of the Assam Valley, is situated about eight miles from the southern bank of the Brahmapootra. The valley of the river extends to the north-east and west-south-west, while the Naga Hills run almost parallel about 40 miles to the south. The Himalaya rise somewhat further away in the north and north-west.

Berhampore, one hundred and seventy miles from the sea, on the left bank of the Bhagirati, thirty miles below where that river leaves the Ganges. It here flows nearly along the edge of the delta, since the ground rises from a short distance to the west of the river up to the foot of the Rajmehal Hills and the undulating country of Beerbhoom.

Monghyr, situated on and around some low hills on the banks of the Ganges, which form the north extremity of the Kurruckpore range. Near Monghyr these hills are not more than a few hundred feet in height. They consist chiefly of quarzites, and, preserving the same mineral characters, they stretch away in a broken chain to the south-west. To the north and west of Monghyr extends the great Gangetic plain; to the south and south-east, the rocky and elevated country of Hazareebagh and the Damin-i-koh, chiefly covered with forest, and of which the Kurruckpore Hills form the north-western corner.

Purneah, about forty miles north by west from the northern spur of the Rajmehal Hills, and about twenty-eight miles from the Ganges, is situated in the centre of the Gangetic plain, some sixty-five miles south of the Himalaya.

Hazareebagh is situated in the elevated and hilly country south of the Ganges, and between its delta and the valley of the Sone. To the south of the station the ground falls rapidly to the Damoodah; to the north it declines gently to a lower part of the plateau, traversed by the Great Trunk Road, which at Burhee (due north of Hazareebagh) has an elevation of 1,160 feet. The country is undulating or hilly and much covered with jungle.

Gya.—This station is situated sixty miles south of Patna, on the plain lying to westward of the range which bounds the Hazareebagh and Parasnath plateau on the west, and at an elevation of about 350 feet above the sea. Since this plateau, having a mean elevation of 1,100 to 1,300 feet, with hill masses of much greater height, intervenes between the Bay of Bengal and the plain of Gya, and must be traversed by the south-east winds which bring the rains to Behar and the North-Western Provinces, the climate of Gya is hot and dry.

Dehree, on the left bank of the Sone River, near the crossing of the Great Trunk Road, and within a few miles of Sasseram. The escarpment of the Rewah plateau is about seven miles distant to the south-west. On the south and east the hill country of Palamow and the Hazareebagh plateau rises from the alluvial plain to the right of the river, at a distance of about 40 miles; and on the north the alluvial plain of Shahabad extends uninterruptedly to the banks of the Ganges.

Patna, on the south bank of the Ganges, below the confluence of the Sone, and surrounded by the alluvial plains of these rivers.

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* Above the highest water-mark.

Benares, on the north bank of the Ganges, one hundred and eighty miles west of Patna. From the south bank of the river the alluvium extends to the foot of the Kymore plateau, which intervenes between the valleys of the Ganges and the Sone. To the north is the flat alluvial plain of Oude.

* Roorkee, near the head of the Ganges canal, but a few miles distant from the foot of the Sewaliks, an outer range of the Himalaya.

ATMOSPHERIC PRESSURE.

Casella's small standard barometers with tubes 0·4 inch in diameter have been in use at all stations which are under the supervision of this office, except False Point, where a marine barometer on the Kew principle has been registered since the 1st January 1872. All the registers in the following tables, except that for Madras, have been corrected to the Calcutta standard, which reads 0·011 inch higher than that of Kew.

Table II gives the mean pressure of each month at each hour of observation, and the mean of the month. For those stations at which observations have been recorded four times in the day, at six hours' intervals, as at the first class stations in Bengal and the whole of the stations in the North-Western Provinces, given in Table III, the mean monthly pressure is assumed to be the arithmetic mean of the four sets of observations. In the case of Madras, Port Blair, Nancowry, Sibsagar, and Purneah, as well as in that of the Ceylon and Central India stations in Table III, the arithmetic mean of the 10*h*. and 16*h*. observations is adopted provisionally as the mean of the month. For the remaining stations in Table II, the mean monthly pressures have been deduced by applying to the 10*h*. and 16*h*. observations, corrections obtained from the registers of past years. These corrections were given in the report for 1873.

I am obliged to reject the barometric register for the new station of Purneah, which commenced working in June, from August to the end of the year. For some of these months the observations were manifestly inaccurate. For others the erroneous character of the register was only detected in laying down the isobaric lines. The barometric register of Silchar for the first two months of the year has been omitted for the reason mentioned in the report of last year. It has also been rejected for November, during the greater part of which month the observations were manifestly inaccurate. The register for Benares has been omitted from August to the end of the year in consequence of information received regarding the inaccurate conditions under which the observations were recorded during that period.

Table IV shows the monthly means of both the preceding tables reduced to sea-level, with the omission of Darjeeling. It comprises the results of 37 stations in India, Burmah, Ceylon, and the islands of the Bay.

Table V gives the average monthly pressure of twenty-eight stations in India, Arakan, the Andaman Islands, and Ceylon, computed from the registers of the last eight years, or from so many of them as have furnished trustworthy results. At some of these stations the elevation of the barometer has been changed during the period, but all the registers have been reduced to the elevations given in the first column. The second column shows the number of years from which each average has been computed. Where two figures are given, they indicate that the means of certain months have been obtained from shorter periods than those of others.

Table VI shows the amount by which the pressure of each month of 1874 deviated above or below the average of Table V. The data of this table will be discussed at the end of the section.

TABLE II.—MEAN MONTHLY PRESSURES FOR 1874.

Months.	PORT BLAIR.				NANCOWRY.				MADRAS.			
	Mean.	10h.	16h.	Range.	Mean.	10h.	16h.	Range.	Mean.	10h.	16h.	Range.
	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.
January	·921	·967	·875	·092	·782	·821	·743	·078	1·027	1·084	·969	·115
February	·886	·936	·837	·099	·759	·803	·716	·087	·967	1·027	·906	·121
March	·830	·877	·783	·094	·724	·766	·682	·084	·880	·943	·817	·126
April	·817	·866	·768	·098	·733	·776	·691	·085	·843	·910	·776	·134
May	·732	·775	·689	·086	·672	·714	·630	·084	·686	·745	·628	·117
June	·720	·765	·675	·090	·652	·690	·614	·076	·699	·758	·641	·117
July	·721	·755	·688	·067	·694	·727	·661	·066	·707	·759	·656	·103
August	·750	·783	·717	·066	·725	·762	·687	·075	·742	·801	·684	·117
September	·752	·798	·707	·091	·726	·769	·683	·086	·729	·790	·667	·123
October	·793	·842	·745	·097	·744	·785	·702	·083	·784	·840	·727	·113
November	·822	·872	·773	·099	·786	·831	·740	·091	·937	·989	·885	·104
December	·811	·861	·761	·100	·809	·853	·764	·089	·991	1·043	·939	·104
Year ...	·796	·841	·751	·090	·734	·775	·693	·082	·833	·891	·775	·116

	VIZAGAPATAM.						AKYAB.					
	Mean.	4h.	10h.	16h.	22h.	Range.	Mean.	4h.	10h.	16h.	22h.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.
January	1·031	·994	1·099	·977	1·052	·122	1·031	1·002	1·082	·989	1·051	·093
February	·954	·916	1·025	·899	·976	·126	·967	·929	1·033	·918	·987	·115
March	·861	·826	·934	·807	·876	·127	·872	·843	·939	·821	·884	·118
April	·815	·783	·874	·765	·839	·109	·856	·839	·922	·798	·866	·124
May	·658	·636	·705	·605	·688	·100	·719	·702	·772	·662	·740	·110
June	·616	·594	·659	·562	·649	·097	·694	·678	·736	·640	·721	·096
July	·600	·580	·642	·545	·633	·097	·686	·672	·726	·633	·715	·093
August	·635	·613	·680	·582	·666	·098	·698	·673	·744	·645	·730	·099
September	·697	·673	·751	·643	·721	·108	·767	·750	·822	·704	·792	·118
October	·768	·736	·826	·720	·791	·106	·824	·796	·875	·769	·856	·106
November	·945	·910	1·000	·903	·968	·097	·956	·936	1·003	·908	·978	·095
December	1·027	·990	1·093	·976	1·049	·117	·997	·977	1·050	·949	1·013	·101
Year ...	·801	·771	·857	·749	·826	·108	·839	·816	·892	·786	·861	·106

TABLE II.—MEAN MONTHLY PRESSURES FOR 1874.—(*Continued.*)

	FALSE POINT.						CUTTACK.					
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.
January	1·070	1·052	1·120	1·019	1·088	·101	·977	·955	1·042	·907	1·005	·135
February	·981	·956	1·031	·935	1·003	·096	·886	·855	·955	·817	·916	·138
March	·875	·861	·927	·825	·886	·102	·781	·758	·850	·704	·811	·146
April	·800	·783	·860	·745	·811	·115	·708	·693	·773	·629	·737	·144
May	·645	·626	·693	·599	·660	·094	·561	·556	·606	·490	·592	·116
June	·594	·577	·638	·545	·616	·093	·526	·517	·564	·461	·560	·103
July	·593	·585	·631	·542	·614	·089	·521	·513	·555	·457	·557	·098
August	·610	·592	·649	·559	·641	·090	·536	·514	·579	·481	·571	·098
September	·723	·709	·766	·672	·745	·094	·642	·628	·689	·576	·674	·113
October	·797	·774	·847	·749	·818	·098	·720	·696	·769	·664	·750	·105
November	·991	·964	1·045	·942	1·015	·103	·919	·894	·973	·865	·943	·108
December	1·067	1·049	1·121	1·012	1·086	·109	·987	·966	1·049	·926	1·009	·123
Year ...	·812	·794	·861	·762	·832	·099	·730	·712	·784	·665	·760	·119

	SAUGOR ISLAND.						CHITTAGONG.					
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.
January	1·067	1·035	1·129	1·014	1·091	·115	·980	·954	1·040	·924	1·001	·116
February	·977	·941	1·043	·924	1·001	·119	·923	·879	·983	·881	·951	·102
March	·863	·829	·933	·809	·879	·124	·824	·795	·887	·770	·842	·117
April	·799	·771	·869	·744	·812	·125	·789	·758	·851	·740	·808	·111
May	·644	·631	·692	·594	·659	·098	·643	·626	·688	·596	·663	·092
June	·604	·587	·645	·553	·632	·092	·605	·600	·648	·548	·625	·100
July	·596	·580	·634	·546	·625	·088	·596	·583	·636	·540	·625	·096
August	·599	·574	·639	·548	·634	·091	·596	·576	·639	·542	·628	·097
September	·723	·699	·774	·665	·752	·109	·689	·670	·741	·628	·718	·113
October	·790	·765	·848	·735	·813	·113	·757	·733	·802	·704	·791	·098
November	·988	·963	1·045	·934	1·008	·111	·901	·884	·947	·848	·923	·099
December	1·048	1·020	1·113	1·001	1·058	·112	·957	·939	1·010	·905	·975	·105
Year ...	·808	·783	·864	·756	·830	·108	·772	·750	·823	·719	·796	·104

TABLE II.—MEAN MONTHLY PRESSURES FOR 1874.—(*Continued.*)

	CALCUTTA.						BURDWAN.				JESSORE.			
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	10*h*.	16*h*.	Range.	Mean.	10*h*.	16*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.
January ...	1·049	1·017	1·122	·990	1·067	·132	·960	1·035	907	·128	1·043	1·104	·985	·119
February ...	·956	·914	1·030	·906	·974	·124	·874	·949	·823	·126	·955	1·017	·898	·119
March ...	·835	·802	·912	·779	·845	·133	·738	·813	·681	·132	·821	·892	·753	·139
April ...	·770	·744	·838	·705	·792	·133	·656	·736	·581	·155	·755	·827	·681	·146
May ...	·609	·593	·664	·552	·627	·112	·499	·564	·428	·136	·598	·656	·528	·128
June ...	·590	·571	·633	·535	·621	·098	·505	·552	·444	·108	·591	·635	·534	·101
July ...	·588	·572	·630	·532	·619	·098	·501	·548	·442	·106	·595	·635	·541	·094
August ...	·587	·567	·628	·532	·620	·096	·503	·550	·443	·107	·587	·633	·527	·106
September ...	·710	·691	·761	·648	·739	·113	·619	·675	·558	·117	·702	·757	·638	·119
October ..	·791	·763	·849	·739	·811	·110	·714	·779	·658	·121	·788	·842	·736	·106
November ...	·984	·958	1·046	·932	1·001	·114	·910	·976	·860	·116	·973	1·027	·919	·108
December ...	1·042	1·013	1·113	·986	1·057	·127	·960	1·036	·906	·130	1·028	1·086	·973	·113
Year ...	·792	·767	·852	·736	·814	·116	·703	·768	·644	·124	·786	·842	·726	·116

	DACCA.						SILCHAR.				HAZAREEBAGH.			
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.	Mean.	10*h*.	16*h*.	Range.	Mean.	10*h*.	16*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.	27 ins. +	27 ins. +	27 ins. +	Inch.
January ...	1·033	1·008	1·097	·974	1·051	·123	Untrustworthy.				·993	1·052	·947	·105
February ...	·940	·904	1·011	·889	·958	·122	Do.				·929	·984	·878	·106
March ...	·817	·794	·889	·757	·829	·132	·820	·891	·760	·131	·830	·889	·780	·109
April ...	·774	·760	·845	·712	·777	·133	·773	·847	·703	·144	·782	·839	·722	·117
May ...	·621	·615	·677	·559	·631	·118	·626	·688	·566	·122	·624	·675	·567	·108
June ...	·607	·597	·650	·545	·637	·105	·591	·650	·522	·128	·595	·633	·544	·089
July ...	·607	·600	·651	·546	·631	·105	·591	·641	·518	·123	·601	·641	·551	·090
August ...	·606	·591	·653	·545	·635	·108	·595	·652	·523	·129	·598	·637	·555	·082
September ...	·705	·691	·759	·640	·731	·119	·683	·745	·610	·135	·708	·758	·657	·101
October ...	·788	·766	·847	·732	·808	·115	·752	·812	·686	·126	·816	·862	·769	·093
November ...	·957	·939	1·015	·902	·972	·113	Erroneous.				·984	1·035	·940	·095
December ...	1·010	·990	1·070	·953	1·026	·117	·971	1·034	·909	·125	1·013	1·065	·974	·091
Year ...	·789	·771	·847	·729	·807	·118	...	...	...	...	·789	·839	·740	·099

The means of the first five months of the Hazareebagh table have been corrected to the elevation of 2,010 feet, at which the barometer has been since the 1st June.

TABLE II.—MEAN MONTHLY PRESSURES FOR 1874.—(*Continued.*)

	BERHAMPORE.				GYA.				PATNA.			
	Mean.	10*h*.	16*h*.	Range.	Mean.	10*h*.	16*h*.	Range.	Mean.	10*h*.	16*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.
January	1·007	1·077	·941	·136	·687	·751	·624	·127	·935	1·004	·878	·126
February	·903	·974	·838	·136	·595	·657	·532	·125	·817	·881	·764	·117
March	·776	·848	·705	·143	·460	·519	·402	·117	·663	·732	·601	·131
April	·694	·769	·613	·156	·371	·434	·308	·126	·566	·635	·499	·136
May	·528	·592	·452	·140	·189	·244	·134	·110	·381	·442	·317	·125
June	·533	·588	·469	·119	·180	·228	·133	·095	·386	·438	·333	·105
July	·550	·601	·482	·119	·198	·248	·148	·100	·397	·451	·336	·115
August	·543	·597	·475	·122	·203	·252	·154	·098	·401	·452	·347	·105
September	·652	·705	·587	·118	·312	·369	·255	·114	·506	·564	·446	·118
October	·745	·800	·689	·111	·453	·509	·397	·112	·638	·696	·585	·111
November	·941	1·007	·884	·123	·651	·704	·599	·105	·844	·906	·793	·113
December	1·005	1·074	·938	·136	·712	·769	·656	·113	·906	·971	·853	·118
Year ...	·740	·803	·673	·130	·418	·474	·362	·112	·620	·681	·563	·118

	MONGHYR.				PURNEAH.				DARJEELING.					
	Mean.	10*h*.	16*h*.	Range.	Mean.	10*h*.	16*h*.	Range.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Range.
	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.	23 ins. +	23 ins. +	23 ins. +	23 ins. +	23 ins. +	Inch.
January ...	·895	·971	·835	·136	...	...	...	...	·403	·382	·430	·385	·415	·045
February ...	·801	·875	·745	·130	...	...	...	...	·372	·355	·393	·352	·387	·041
March ...	·664	·738	·600	·138	...	...	...	...	·336	·318	·359	·317	·350	·042
April ...	·579	·654	·509	·145	...	...	...	...	·395	·374	·424	·373	·408	·051
May ...	·402	·467	·329	·138	...	...	...	...	·305	·287	·327	·287	·320	·040
June ...	·409	·458	·344	·114	·445	·499	·390	·109	·325	·309	·362	·294	·336	·068
July ...	·429	·476	·367	·109	·451	·500	·401	·099	·318	·302	·352	·288	·330	·064
August ...	·432	·480	·372	·108	Untrustworthy.				·328	·313	·358	·291	·352	·067
September ...	·541	·597	·477	·120					·376	·362	·412	·334	·396	·078
October ...	·658	·716	·604	·112					·446	·424	·483	·410	·466	·073
November ...	·861	·924	·808	·116					·497	·479	·538	·464	·506	·074
December ...	·909	·977	·855	·122					·471	·454	·511	·434	·487	·077
Year ...	·632	·694	·570	·124	...	...	...	...	·381	·363	·412	·352	·396	·060

TABLE II.—MEAN MONTHLY PRESSURES FOR 1874.—(*Concluded.*)

	SIBSAGAR.				GOALPARA.			
	Mean.	10h.	16h.	Range.	Mean.	10h.	16h.	Range.
	29 ins. +	29 ins. +	29 ins. +	Inch.	29 ins. +	29 ins. +	29 ins. +	Inch.
January	·748	·813	·683	·130	·667	·732	·589	·143
February	·671	·735	·606	·129	·580	·646	·505	·141
March	·562	·634	·490	·144	·463	·532	·379	·153
April	·531	·599	·464	·135	·433	·503	·352	·151
May	·378	·437	·320	·117	·270	·333	·199	·134
June	·337	·401	·273	·128	·257	·317	·190	·127
July	·319	·378	·260	·118	·247	·303	·184	·119
August	·328	·391	·264	·127	·247	·304	·187	·117
September...	·409	·481	·336	·145	·343	·405	·275	·130
October	·525	·593	·456	·137	·447	·510	·375	·135
November...	·693	·764	·623	·141	·613	·677	·537	·140
December	·741	·814	·668	·146	·658	·724	·581	·143
Year ...	·520	·587	·454	·133	·435	·499	·363	·136

	BENARES.						ROORKEE.					
	Mean.	4h.	10h.	16h.	22h.	Range.	Mean.	4h.	10h.	16h.	22h.	Range.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	Inch.	28 ins. +	28 ins. +	28 ins. +	28 ins. +	28 ins. +	Inch.
January	·788	·814	·839	·736	·763	·103	1·148	1·119	1·209	1·108	1·155	·101
February	·702	·714	·749	·640	·704	·109	1·060	1·035	1·114	1·016	1·075	·098
March	·592	·643	·620	·523	·581	·097	·943	·922	·994	·908	·948	·086
April	·476	·476	·535	·422	·473	·113	·868	·841	·929	·824	·879	·105
May	·289	·284	·349	·237	·288	·112	·663	·643	·725	·620	·662	·105
June	·291	·289	·338	·235	·303	·103	·662	·649	·727	·614	·656	·113
July	·296	·295	·332	·235	·323	·097	·680	·666	·734	·638	·680	·096
August	Untrustworthy						·695	·671	·751	·652	·706	·099
September							·792	·782	·857	·742	·787	·115
October							·933	·908	·999	·888	·926	·111
November							1·118	1·097	1·181	1·072	1·122	·109
December							1·156	1·129	1·217	1·114	1·162	·103
Year ...	...	...	...	...	...	...	·893	·872	·953	·850	·896	·103

TABLE III.—BAROMETRIC MONTHLY MEANS OF ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND CEYLON FOR 1874.

(*Corrected to the Calcutta Standard.*)

	Elevation.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Jhansi	836	29·200	29·116	28·996	28·930	28·772	28·698	28·714	28·745	28·847	28·988	29·166	?	?
Allahabad	289	·777	·678	29·546	?	?	?	?	?	?	?	·882	29·916	?
Goruckpore	255	·780	·687	·572	29·469	29·292	29·308	29·310	29·319	29·429	?	?	?	?
Lucknow	364	·681	·586	·458	·377	·186	·174	·186	·206	·312	29·452	·648	·697	29·414
Agra	551	·510	·419	·294	·220	·038	28·993	28·992	·018	·124	·266	·465	·515	·238
Bareilly	570	·479	·382	·289	·167	28·970	·996	29·017	·026	·123	·255	·428	·468	·217
Jubbulpore	1,353	28·663	28·592	28·492	28·425	?	·249	28·227	28·283	28·392	28·512	28·681	28·722	?
Nagpore	1,025	·971	·905	·821	·746	·595	·559	·557	·611	·660	·780	·969	29·011	28·765
Raipore	981	29·006	·999	·866	·794	·622	·579	·594	·633	·698	·780	29·002	·056	·802
Jaffna	9	·989	29·946	29·882	29·859	29·747	29·760	29·767	29·793	29·780	29·817	·916	·955	29·851
Trincomalee	175	·800	·761	·711	·684	·576	·586	·584	·611	·601	·637	·739	·768	·671
Colombo	42	·909	·884	·850	·846	·788	·815	·825	·841	·828	·839	·886	·895	·850
Galle	40	·881	·855	·823	·820	·767	·788	·800	·816	·804	·820	·859	·870	·825

TABLE IV.—BAROMETRIC MONTHLY MEANS FOR 1874 REDUCED TO SEA-LEVEL.

STATIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +	29 ins. +
Galle	·922	·896	·864	·861	·808	·829	·841	·857	·845	·861	·900	·911	·866
Colombo	·952	·927	·893	·889	·831	·858	·868	·884	·871	·882	·929	·932	·893
Trincomalee	·980	·941	·890	·864	·753	·763	·763	·789	·779	·816	·919	·948	·851
Jaffna	·998	·955	·891	·868	·756	·769	·776	·802	·789	·826	·925	·964	·860
Nancowry	·921	·897	·862	·871	·811	·791	·833	·864	·866	·881	·924	·948	·872
Port Blair	·983	·949	·893	·880	·794	·783	·784	·813	·815	·856	·885	·874	·859
Madras	1·055	·995	·908	·871	·714	·727	·735	·770	·757	·812	·965	1·019	·861
Vizagapatam	1·063	·986	·893	·847	·689	·647	·632	·666	·729	·800	·977	1·060	·832
Akyab	1·053	·989	·894	·878	·740	·716	·708	·720	·789	·846	·978	1·019	·861
False Point	1·089	1·000	·895	·819	·663	·613	·612	·629	·742	·815	1·010	1·087	·831
Cuttack	1·061	·970	·864	·790	·642	·608	·602	·618	·725	·803	1·003	1·071	·813
Saugor Island ...	1·073	·983	·869	·805	·650	·610	·602	·605	·729	·795	·994	1·054	·814
Chittagong	1·076	1·018	·918	·882	·736	·697	·688	·688	·782	·850	·995	1·052	·865
Calcutta	1·068	·975	·854	·788	·627	·608	·606	·601	·728	·810	1·002	1·061	·811
Burdwan	1·069	·981	·846	·759	·596	·607	·603	·606	·722	·819	1·016	1·069	·807
Jessore	1·065	·976	·842	·776	·618	·612	·616	·608	·723	·809	·994	1·050	·808
Dacca	1·070	·977	·854	·810	·656	·643	·643	·642	·741	·824	·993	1·047	·825
Silchar	?	?	·914	·865	·718	·681	·682	·686	·775	·844	?	1·066	?
Sibsagar	1·117	1·022	·919	·873	·717	·670	·652	·662	·744	·864	1·039	1·094	·864
Goalpara	1·073	·984	·862	·827	·660	·643	·634	·632	·732	·841	1·011	1·062	·830
Berhampore	1·075	·970	·842	·760	·592	·597	·614	·607	·718	·811	1·008	1·073	·806
Monghyr	1·066	·970	·830	·739	·560	·570	·590	·593	·703	·804	1·029	1·079	·794
Purneah	.....	.....	.....	.....	.....	·576	·583	.....	.....	.....	.....	.....	.....
Hazareebagh	1·076	·987	·855	·743	·558	·573	·575	·577	·690	·824	1·038	1·094	·808
Gya	1·053	·956	·813	·715	·527	·523	·542	·549	·659	·805	1·012	1·077	·770
Patna	1·126	1·006	·847	·745	·557	·566	·577	·581	·687	·821	1·031	1·096	·803
Goruckpore	1·052	·955	·832	·724	·540	·562	·564	·573	·685	?	?	?	?
Benares	1·069	·978	·861	·737	·545	·551	·557	?	?	?	?	?	?
Jhansi	1·084	·988	·849	·757	·586	·523	·544	·580	·613	·833	1·032	?	?
Allahabad	1·085	·982	·844	?	?	?	?	?	?	?	?	?	?
Lucknow	1·069	·968	·831	·739	·540	·534	·547	·569	·675	·820	1·028	1·082	·783
Agra	1·094	·995	·856	·765	·573	·533	·536	·564	·673	·823	1·036	1·093	·795
Bareilly	1·084	·980	·874	·732	·523	·557	·581	·590	·690	·832	1·022	1·072	·795
Roorkee	1·097	·989	·856	·748	·525	·532	·556	·570	·673	·829	1·043	1·096	·793
Jubbulpore	1·085	·991	·864	·762	?	·589	·574	·638	·744	·886	1·092	1·143	?
Nagpore	1·036	·956	·855	·754	·593	·580	·582	·641	·688	·816	1·032	1·079	·801
Raipore	1·032	1·012	·862	·761	·574	·555	·575	·621	·683	·773	1·019	1·087	·796

TABLE V.—AVERAGES OF MONTHLY MEAN PRESSURES DEDUCED FROM THE REGISTERS OF THE YEARS 1867 TO 1874.

(*Corrected to the Calcutta Standard.*)

STATIONS.	Elevation in feet.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	40	4-6	29·848	29·850	29·838	29·802	29·795	29·789	29·808	29·814	29·835	29·836	29·838	29·860	29·826
Colombo	42	5-6	·863	·865	·851	·814	·799	·799	·822	·826	·847	·848	·852	·868	·838
Trincomalee	175	4-6	·758	·753	·726	·661	·603	·581	·596	·608	·625	·654	·733	·767	·672
Port Blair	61	5-7	·859	·873	·840	·792	·734	·718	·725	·737	·760	·789	·840	·851	·793
Madras	27	7	·980	·951	·899	·813	·718	·677	·706	·734	·755	·816	·926	·975	·829
Vizagapatam	31	5	·966	·925	·865	·791	·672	·595	·584	·636	·691	·792	·940	30·000	·788
Akyab	21	7-8	·994	·937	·888	·833	·752	·680	·681	·707	·760	·839	·949	29·995	·835
False Point...	18·7	8	30·033	·970	·902	·804	·702	·593	·588	·642	·708	·838	·994	30·046	·818
Cuttack	80	7-8	29·967	·890	·809	·705	·610	·532	·529	·579	·656	·795	·946	29·993	·751
Saugor Island	6	8	30·020	·949	·879	·781	·678	·561	·551	·599	·684	·824	·981	30·041	·796
Calcutta	18·11	8	·016	·946	·860	·764	·661	·552	·550	·606	·687	·831	·979	·032	·790
Chittagong	90	8	29·920	·868	·802	·737	·647	·550	·547	·586	·654	·762	·886	29·931	·741
Jessore	20	7-8	30·000	·932	·847	·750	·658	·545	·547	·600	·684	·825	·968	30·017	·781
Dacca	35	6-8	29·981	·925	·840	·760	·670	·564	·561	·605	·686	·813	·951	·002	·780
Silchar	88·91	4-6	·930	·885	·814	·740	·643	·554	·550	·597	·678	·785	·931	29·972	·757
Hazareebagh	2,010	7-8	27·974	27·924	27·862	27·775	27·679	27·570	27·564	27·622	27·697	27·852	27·976	28·001	27·791
Berhampore	64	7	29·956	29·882	29·788	29·679	29·574	29·464	29·481	29·548	29·635	29·771	29·919	29·974	29·723
Patna	179	6-7	·862	·798	·688	·581	·468	·354	·364	·431	·514	·676	·834	·886	·621
Monghyr	160·4	6-7	·863	·786	·685	584	·482	·373	·381	·442	·526	·681	·837	·886	·627
Darjeeling	6,912	6-8	23·387	23·365	23·360	23·366	23·331	23·274	23 268	23·308	23·364	23·427	23·470	23·441	23·363
Goalpara	386	6	29·616	29·545	29·463	29·394	29·297	29·216	29·200	29·255	29·340	29·451	29·593	29·632	29·417
Benares	262·74	6-7	·786	·711	·618	·498	·383	·271	·277	.....	.....	.....	.....	.....	.....
Jhansi	836	6-8	·170	·125	·016	28·914	28·800	28·666	28·679	28·753	28·837	·006	·150	·198	28·943
Lucknow	364	7	·682	·606	·513	29·391	29·275	29·153	29·165	29·228	29·323	·483	·646	·699	29·430
Roorkee	879·7	8	·120	·050	28·974	28·867	28·741	28·624	28·640	28·698	28·798	28·960	·108	·151	28·894
Agra	551	8	·500	·427	29·336	29·222	29·094	·970	·977	29·036	29·136	29·309	·468	·512	29·249
Nagpore	1,025	6	28·946	28·909	28·814	28·716	28·628	·536	·541	28·608	28·654	28·798	28·944	28·979	28·756
Jubbulpore	1,353	5-6	·624	·607	·520	·427	·326	·209	·205	·279	·339	·501	·642	·664	·445

TABLE VI.—COMPARISON OF THE BAROMETRIC MEANS OF 1874 WITH THE AVERAGES OF TABLE V.

STATIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	+·033	+·005	−·015	+·018	−·028	−·001	−·008	+·002	−·031	−·016	+·021	+·010	−·001
Colombo	+·046	+·019	−·001	+·032	−·011	+·016	+·003	+·015	−·019	−·009	+·034	+·027	+·013
Trincomalee	+·042	+·008	−·015	+·023	−·027	+·005	−·012	+·003	−·024	−·017	+·006	+·001	−·001
Port Blair	+·062	+·013	−·010	+·025	−·002	+·002	−·004	+·013	−·008	+·004	−·018	−·040	+·003
Madras	+·047	+·016	−·019	+·030	−·032	+·022	+·001	+·008	−·026	−·022	+·011	+·016	+·004
Vizagapatam ...	+·065	+·029	−·004	+·024	−·014	+·011	+·016	−·001	+·006	−·024	+·005	+·027	+·012
Akyab	+·037	+·030	−·016	+·023	−·033	+·014	+·005	−·009	+·007	−·015	+·007	+·002	+·004
False Point	+·037	+·011	−·027	−·004	−·057	+·001	+·005	−·032	+·015	−·041	−·003	+·021	−·006
Cuttack	+·010	−·004	−·028	−·003	−·049	−·006	−·008	−·043	−·014	−·075	−·027	−·006	−·021
Saugor Island ...	+·047	+·028	−·016	+·018	−·034	+·043	+·045	0	+·039	−·034	+·007	+·007	+·013
Calcutta	+·033	+·010	−·025	+·006	−·052	+·038	+·038	−·019	+·023	−·040	+·005	+·010	+·002
Chittagong	+·060	+·055	+·022	+·052	−·004	+·055	+·049	+·010	+·035	−·005	+·015	+·026	+·031
Jessore	+·043	+·023	−·026	+·005	−·060	+·046	+·048	−·013	+·018	−·037	+·005	+·011	+·005
Dacca	+·052	+·015	−·023	+·014	−·049	+·043	+·046	+·001	+·019	−·025	+·006	+·009	+·009
Silchar	?	?	+·006	+·033	−·017	+·037	+·041	−·002	+·005	−·033	?	−·001	?
Hazareebagh	+·019	+·005	−·032	+·007	−·055	+·025	+·037	−·024	+·011	−·036	+·008	+·012	−·002
Berhampore	+·041	+·021	−·012	+·015	−·046	+·069	+·069	−·005	+·017	−·026	+·022	+·031	+·016
Patna	+·073	+·019	−·025	−·015	−·087	+·032	+·033	−·030	−·008	−·038	+·010	+·020	−·001
Monghyr	+·032	+·015	−·021	−·005	−·080	+·036	+·048	−·010	+·015	−·023	+·024	+·023	+·004
Darjeeling	+·016	+·007	−·024	+·029	−·026	+·051	+·050	+·020	+·012	+·019	+·027	+·030	+·018
Goalpara	+·051	+·035	0	+·039	−·027	+·041	+·047	−·008	+·003	−·004	+·020	+·026	+·019
Benares	+·002	−·009	−·026	−·022	−·094	+·020	+·019	?	?	?	?	?	?
Jhansi	+·030	−·009	−·020	+·016	−·028	+·032	+·035	−·008	+·010	−·018	+·016	?	?
Lucknow	−·001	−·020	−·055	−·014	−·089	+·021	+·021	−·022	−·011	−·031	+·002	−·002	−·017
Roorkee	+·028	+·010	−·031	+·001	−·078	+·038	+·040	−·003	−·006	−·027	+·010	+·005	−·001
Agra	+·010	−·008	−·042	−·002	−·056	+·023	+·015	−·018	−·012	−·043	−·003	+·003	−·011
Nagpore	+·025	−·004	+·007	+·030	−·033	+·023	+·016	+·003	+·006	−·018	+·025	+·032	+·009
Jubbulpore	+·039	−·015	−·028	−·002	?	+·040	+·022	+·004	+·053	+·011	+·039	+·058	?

The high pressure of the latter months of the preceding year was carried on into January, when it became abnormally high over the greater part of the area under consideration. The excess of pressure above the average was, however, less in the North-Western Provinces, at Hazareebagh, and at Cuttack than elsewhere, while it was greatest at Patna. From near Hazareebagh there extended in a north-west direction a trough of relatively low pressure which included Gorruckpore and Lucknow; while an area of abnormally high pressure included Patna and probably extended northwards over Tirhoot.

In February the excess of pressure, which still continued over the geater portion of the area to which the tables refer, became much less than in January. In the Central Provinces and the North-Western Provinces, as also at Cuttack, the pressure fell below the average for the month. Its relative distribution, however, remained much the same as in the preceding month. The abnormally high pressure over Patna and Tirhoot still continued as a legacy from the preceding year, while the trough of relatively low pressure above mentioned retained the same general outline as before. The highest pressures, reduced to sea-level, over the whole region considered were at Sibsagar in Assam and at Raipore in the Central Provinces, and the lowest at Nancowry in the Nicobars and in the south of Ceylon. The northern part of the Bay is in this month an area of relatively high pressure, bounded on the north by an isobaric line stretching from False Point towards Akyab, and then curving up to the west of Chittagong across Assam. The southern limits of this high pressure are not so easily definable from the present data.

In March a rapid fall of pressure brought it generally below the average. The deficiency was greatest in the North-Western Provinces, Behar, and Orissa. At Chittagong, however, the pressure was higher than usual, and such was also the case at Silchar. This excessive pressure, extending from Akyab, through Chittagong, Assam, and as far round at least as Darjeeling, was a marked feature in the meteorology of the year, and was persistent in a greater or less degree from its commencement to its close, as was also an equally remarkable deficiency of pressure at Cuttack. In this month the abnormally high pressure which existed in the early part of the year round and north of Patna disappeared, and the pressure in the above locality fell below the average. The region of lowest pressure now included Central and Western Bengal, Behar, and the greater portion of the North-Western Provinces. In the Bay the isobaric lines appeared to stretch across in an east by northerly direction, and the region of maximum pressure, with the exception of the north-east of the Assam Valley, lay between Madras and a little north of Cape Negrais.

In April, except in Orissa, Chutia Nagpore, and the North-Western Provinces, the pressure was everywhere above the average, and especially so in Assam, at Chittagong, and to the south of the Bay. The region of minimum pressure was now transferred to Chutia Nagpore, Behar, and the North-Western Provinces, but did not extend as far as Jhansi to the westward or Roorkee to the north-westward. The maximum pressure seems to have been at Colombo (if the register of that place can be depended upon), but the centre of the Bay was still included in an area of relatively high pressure, whose southern boundary probably extended from Madras to Nancowry.

In May a rapid fall of pressure brought it everywhere below the average. The deficiency was excessive in Behar and in parts of the North-Western Provinces, while at Port Blair it was inconsiderable. The region of minimum pressure now extended in a north-west direction from Hazareebagh to Roorkee. Usually in the hot-weather months the area of greatest atmospheric depression stretches from Nagpore to Hazareebagh. The abnormal differences of pressure over the delta, indicated by the unusual crowding of the isobaric lines, together with the abnormal position and extent of the area of depression above-mentioned, constituted the most important characteristic in the meteorology of the month. The high pressure over the centre of the Bay, which generally does not disappear before June, was obliterated in this month, and Nancowry, 29·811, and Colombo, 29·831, became the localities of maximum pressure. The absolute minimum was at Bareilly, 29·523, showing a gradient considerably sharper than is usual at the time of year.

The anomalies of pressure and its distribution during the months of June and July were so similar over the whole of the area referred to in the tables that the two months may be considered together. These months were characterised by an abnormally high pressure over the greater part of the area considered. The excess was greatest in Bengal proper and least in Ceylon and to the south of the Bay ; while in the south of Orissa the pressure was slightly below the average, but relatively very low for the time of year in comparison to that of neighbouring localities. The region of lowest pressure which in May was mostly north of the Ganges now moved further south (while the pressure increased to the northwards) and extended on the one hand from Raipore nearly as far north as Patna, and on the other hand from Hazareebagh by Jhansi, Agra, and Rookee towards the Punjab, where the absolute minimum probably existed. The data, however, are insufficient to trace the isobaric lines beyond the limits of the North-Western Provinces. The almost complete failure of the monsoon rains during the months of June, July, and August in Bengal proper was probably intimately connected with this excessive atmospheric pressure over the delta of the Ganges, and to the northwards and eastwards; and to the same cause was probably due the stormy weather in the north of the Bay during part of the same period. The anomalies of pressure in these months, as above described, closely resembled like anomalies during the same period in 1872, and the effects produced on the distribution of rainfall and on the general character of the weather were very similar.

In August an important change took place in the relative distribution of pressure. The barometer rose in Ceylon and the south of the Bay, but over Bengal and the North-Western Provinces it was below the average of former years. It still, however, continued above the average at Darjeeling and also at Chittagong and Dacca. It is probable that a branch of the trough of relatively low pressure of Chutia Nagpore and south Behar extended as far as Purneah. This, however, cannot be stated with certainty in consequence of the doubtful character of the barometric register of that place.

A less considerable fluctuation of pressure from its normal distribution, almost the reverse of that in August, took place in September, when it again slightly exceeded the average in the delta of the Ganges and along the northern shores of the Bay, while it fell below the average in Ceylon and also in the south-east of the Bay.

In October, with the exceptions of Darjeeling to the north and Port Blair to the south, the mean pressure of the month was everywhere below average, but especially so in Orissa. In this month, the period of the change from the south-west to the north-east monsoon, the differences of mean pressure over the whole area referred to in the tables are extremely small. But an area of barometric depression apparently extended over the Bay between latitudes 16° and 17° N. The data in Table IV are, however, insufficient to trace accurately the isobaric lines in this region, there being only one observatory, from which records are received, on the western side of the Bay between Madras and False Point, and none on the eastern side between Port Blair and Akyab. That there was a trough of minimum pressure in the Bay somewhere about the locality indicated appears to be shown by the directions of the atmospheric gradients and the low pressure at Vizagapatam. A similar barometric depression existed in the Bay in the same locality in 1872, but in 1873 it appears to have been either absent or but slightly developed. I have shown elsewhere that it was probably in this trough of minimum pressure that the Midnapore and Burdwan cyclone of the 15th and 16th of October originated, the determining causes being an unusually high relative pressure to the northwards and more especially to the southwards of this region for some days before the formation of the storm.

In November and December the barometer generally ranged above its average height. Port Blair was, however, a remarkable exception. In these months a trough of minimum pressure appears to have extended across the Bay from the southern extremity of Ceylon in an east-north-east direction to Port Blair. In this barometric depression were probably generated the cyclones which were so frequently felt along the Madras shores in these months. The existence of a trough of low pressure at this season in the locality indicated, direct evidence

of which has now for the first time been furnished by the registers from the new meteorological station at Nancowry, is a point of the utmost importance in connection with the theories of the formation of cyclones in the Bay of Bengal. It does not seem to be open to much doubt if the barometric register at Nancowry can be depended upon, and if the estimate of the elevation of the barometer there be correct. These are points, however, which require further confirmation.

Regarding the anomalies of atmospheric pressure during the year, it may be noticed that in Behar, over the greater part of the North-Western Provinces, and at some places in Bengal, the mean pressure was least in May instead of, as is usually the case in this region, in June or July. The year was remarkable (except in the months of July and August) for the unusual magnitude of those fluctuations of pressure or barometric waves which affect the greater part of the country simultaneously. These oscillations, which are most marked during the south-west monsoon, influence, of course, but slightly the mean monthly pressures as given in the foregoing tables, and can only be traced by an examination of daily barometric curves.

The absolute maximum of mean daily pressure occured in Bengal on the 19th of January. On the 3rd of June the crest of a remarkable wave of pressure extended over Bengal; and while the trough of this wave was passing on the 16th a heavy gale was felt at False Point. After the passage of the crest of a minor wave on the 20th, the absolute minimum of pressure in Bengal was reached on the 26th of June. It is worthy of notice that in 1872 the minimum pressure of the year occurred on the same date, the 26th of June, and was preceded and accompanied by very similar circumstances. In that year the crest of an abnormal barometric wave passed on the 16th of June, and its trough on the 26th, about which time for some days very stormy weather prevailed in the north of the Bay. This stormy weather in 1872 was terminated by the Balasore cyclone of the 1st of July.

TEMPERATURE OF THE AIR.

During the past year the temperature of the air has been observed under the same conditions and with the same precautions that have been described in the reports for 1873 and former years.

Table VII gives the monthly abstracts of temperature for those stations which send original returns to the Meteorological Office. The mean of the four periods of observation is adopted as the mean temperature of the day for all stations at which six hourly readings have been registered. In the case of Port Blair and Nancowry, the mean of the minimum and 16*h*. temperature is taken as the diurnal mean. For the remaining stations (except Madras) the mean diurnal temperature is derived from the maximum and minimum temperatures by applying corrections obtained empirically from the registers of past years. These corrections were given in the report for 1873. Corrections derived from the hourly readings have been used for Sibsagar, those of Calcutta for Burdwan, and those of Gya for Dehree. In the case of Madras, from which the 10*h*. and 16*h*. observations only are received, the corrections deduced by Professor Dove have been used to obtain, from these readings, the diurnal mean.

Table VIII gives the mean monthly temperatures of twenty-two stations in Central India, the North-Western Provinces, and Ceylon. Except for the stations in the North-Western Provinces, where six hourly observations have been recorded, the mean diurnal temperature is taken to be, as in former reports, the arithmetical mean of the self-registered minimum and 16*h*. temperature. In Table IX the means given in Table VIII and the corresponding means from Table VII are reduced to sea-level equivalents. It is assumed in making these reductions, as in the reports for the last two years, that the temperature decrement, for increments of elevation, is 1° Fahrenheit for every 450 feet.

Table X gives the average temperature of each month at thirty-six stations in India, Burmah, and Ceylon, deduced from the registers of the last eight years; and Table XI gives the differences between these and the corresponding mean monthly temperatures of the year 1874.

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.

PORT BLAIR.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	79·1	81·7	84·2	85·9	11·9	74·0	29th & 30th	88·0	19·0	25th	69·0
February ...	80·5	82·6	86·8	87·4	13·2	74·2	28th	91·0	22·0	10th & 11th	69·0
March	82·2	85·0	88·4	89·8	13·8	76·0	28th	94·0	21·0	6th to 10th	73·0
April	83·6	86·6	89·6	92·1	14·4	77·7	24th	99·0	26·0	12th	73·0
May	81·2	84·4	85·2	87·5	10·3	77·2	2nd	94·0	21·0	19th to 21st	73·0
June	81·4	84·0	84·9	86·9	9·0	77·9	7th	91·0	18·0	30th	73·0
July	80·2	82·8	84·1	85·5	9·1	76·4	16th	89·0	16·0	12th	73·0
August	79·5	82·4	82·7	84·8	8·5	76·3	8th	88·0	14·0	30th & 31st	74·0
September ...	80·6	83·4	84·7	85·7	9·2	76·5	29th	88·0	14·0	1st	74·0
October	79·3	81·8	83·1	84·7	9·2	75·5	16th	88·0	14·0	27th to 29th	74·0
November ...	80·4	83·6	84·6	85·7	9·4	76·3	28th & 29th	89·0	16·0	2nd	73·0
December ...	80·1	82·7	85·0	86·6	11·4	75·2	25th to 28th	88·0	17·0	28th	71·0
Year ...	80·7	83·4	85·3	86·9	10·8	76·1	.....	99·0	30·0	.....	69·0

NANCOWRY.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	77·4	84·5	82·3	86·3	13·8	72·5	31st	89·0	19·2	21st	69·8
February ...	79·0	85·4	83·8	86·8	12·5	74·3	8th & 9th	88·9	16·1	11th to 13th	72·8
March	79·1	86·1	84·5	87·7	14·0	73·7	24th	89·9	17·1	24th to 31st	72·8
April	79·3	86·9	85·3	88·3	15·0	73·3	28th	89·1	16·9	13th	72·2
May	78·4	85·9	83·3	87·9	14·4	73·5	13th	90·1	17·9	31st	72·2
June	78·3	86·6	83·5	88·0	14·9	73·1	25th	90·1	17·9	30th	72·2
July	77·6	83·9	82·1	87·0	13·9	73·1	23rd & 24th	88·1	15·9	30th	72·2
August	78·2	84·2	83·0	86·2	12·9	73·3	1st	88·1	15·9	16th & 17th	72·2
September ...	77·7	83·3	82·2	84·8	11·6	73·2	24th	88·1	17·9	18th	70·2
October	77·4	83·4	81·3	84·7	11·3	73·4	19th	88·1	15·9	25th	72·2
November ...	78·3	84·2	83·2	85·4	11·9	73·5	25th to 27th	87·1	14·9	17th	72·2
December ...	78·0	83·5	82·7	84·7	11·4	73·3	31st	86·1	13·9	24th & 25th	72·2
Year ...	78·2	84·8	83·1	86·4	13·1	73·3	.....	90·1	20·3	.....	69·8

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

MADRAS.

	Mean.	10h.	16h.
January ...	76·9	80·2	80·2
February ...	79·2	82·6	82·9
March ...	83·3	86·6	85·1
April ...	84·8	89·6	87·0
May ...	85·7	89·5	88·2
June ...	85·9	87·6	90·0
July ...	84·5	85·5	88·7
August ...	86·3	86·9	89·3
Septemher ...	83·1	84·6	86·4
October ...	81·8	84·2	84·6
November ...	78·6	81·5	81·6
December ...	75·5	78·6	78·3
Year ...	82·1	84·8	85·2

VIZAGAPATAM.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	75·3	72·5	75·9	78·1	74·8	78·6	7·3	71·3	30th	82·0	14·5	10th	67·5
February ...	79·2	76·6	79·9	81·8	78·7	82·5	6·8	75·7	22nd	86·5	14·0	17th	72·5
March ...	82·4	80·2	83·4	84·2	81·9	84·8	5·2	79·6	31st	87·7	12·9	6th	74·8
April ...	85·6	83·2	87·3	87·2	84·7	88·0	5·2	82·8	13th & 14th	91·0	10·0	10th & 11th	81·0
May ...	86·9	84·9	88·9	88·1	85·8	89·4	4·8	84·6	13th & 14th	92·0	9·5	8th	82·5
June ...	85·7	83·8	86·6	87·4	85·1	88·1	4·6	83·5	27th	93·0	12·0	16th to 18th	81·0
July ...	85·1	83·3	85·5	86·9	84·7	87·3	4·3	83·0	31st	92·7	13·7	14th	79·0
August ...	85·3	83·5	85·9	87·0	84·6	87·6	4·7	82·9	9th	91·0	10·5	23rd	80·5
September ...	85·1	83·5	85·8	86·3	84·7	86·7	3·6	83·1	18th	89·2	8·2	30th	81·0
October ...	83·1	81·5	83·6	84·4	82·7	84·9	3·8	81·1	4th	90·0	12·0	31st	78·0
November ...	78·7	76·7	79·3	80·2	78·4	80·8	4·6	76·2	12th	84·0	14·0	30th	70·0
December ...	72·5	69·4	73·5	75·3	71·9	75·9	7·3	68·6	3rd	78·7	15·7	21st & 22nd	63·0
Year ...	82·1	79·8	83·0	83·9	81·5	84·5	5·2	79·3	.....	93·0	30·0	.....	63·0

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

AKYAB.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	67·1	57·7	71·1	77·0	62·6	80·6	25·5	55·1	31st	86·8	37·1	16th	49·7
February ...	72·6	63·6	76·9	81·1	68·3	85·6	25·1	60·5	22nd & 23rd	89·8	35·1	9th	54·7
March ...	76·9	68·5	82·0	83·0	74·2	88·3	23·7	64·6	28th	93·8	36·1	13th & 14th	57·7
April ...	82·6	76·4	87·3	86·9	79·8	91·7	18·0	73·7	29th & 30th	95·0	26·5	9th	68·5
May ...	85·3	80·7	88·0	88·8	83·9	92·9	15·3	77·6	1st	97·0	24·0	25th & 26th	73·0
June ...	81·9	78·9	83·9	83·7	81·0	87·5	11·1	76·4	9th	92·0	18·0	28th	74·0
July ...	81·8	79·8	83·5	83·5	80·5	87·8	10·7	77·1	19th	92·5	17·5	31st	75·0
August ...	80·6	78·7	81·2	82·4	80·0	85·3	9·3	76·0	31st	89·8	15·8	14th & 15th	74·0
September ...	81·8	78·4	83·5	84·6	80·6	87·8	11·3	76·5	22nd	90·8	16·8	16th	74·0
October ...	81·6	78·0	84·0	85·1	79·3	88·5	12·4	76·1	12th	92·8	21·2	4th	71·6
November ...	78·1	74·0	81·0	82·1	75·5	86·3	14·6	71·7	5th	90·8	26·2	29th & 30th	64·6
December ...	70·4	63·6	74·0	77·8	66·3	81·7	20·6	61·1	13th & 14th	84·8	29·1	31st	55·7
Year ...	78·4	73·2	81·4	83·0	76·0	87·0	16·5	70·5	.....	97·0	47·3	.....	49·7

FALSE POINT.

	Mean.	4h.	10h.	16h.	22h.
January	69·9	63·4	71·8	74·2	70·3
February	75·7	71·3	77·5	78·7	75·4
March	79·4	75·1	81·2	82·7	78·8
April	83·4	81·0	85·1	85·7	81·7
May	85·4	83·5	86·3	87·2	84·7
June	85·0	83·5	85·6	86·5	84·5
July	84·7	82·9	85·2	86·6	84·1
August	82·2	80·6	82·8	83·5	82·0
September	84·1	82·2	84·8	85·9	83·5
October	81·6	79·5	82·4	83·5	80·8
November	73·6	69·7	75·0	77·4	72·4
December	66·7	59·4	69·0	72·5	65·9
Year	79·3	76·0	80·6	82·0	78·7

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

CUTTACK.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	71·1	61·9	74·4	81·1	67·0	84·8	25·0	59·8	13th	90·7	39·4	15th	51·3
February ...	76·4	68·6	78·0	86·1	73·0	89·7	23·1	66·6	22nd	96·6	38·8	16th	57·8
March ...	81·5	72·9	83·9	92·0	77·1	95·7	24·4	71·3	30th	102·7	40·6	3rd	62·1
April ...	87·1	78·9	91·0	96·5	82·2	103·0	25·3	77·7	23rd	108·3	33·5	9th	74·8
May ...	89·1	82·0	93·4	96·6	84·4	103·9	23·1	80·8	21st	111·2	36·6	30th	74·6
June ...	83·9	80·2	86·9	86·7	81·7	92·9	14·0	78·9	2nd	100·7	25·4	26th	75·3
July ...	83·4	79·8	86·0	86·6	81·1	91·5	13·0	78·5	8th	98·7	22·9	9th	75·8
August ...	81·8	78·8	83·6	84·6	80·3	88·6	11·3	77·3	17th	96·6	22·4	27th	74·2
September...	82·5	79·2	85·1	85·3	80·4	90·4	12·4	78·0	3rd	94·5	18·3	9th	76·2
October ...	80·8	76·9	83·9	83·7	78·5	88·0	12·5	75·5	2nd	92·5	20·1	31st	72·4
November ...	74·2	66·9	78·1	80·8	71·0	84·3	19·1	65·2	5th	89·5	34·6	30th	54·9
December ...	68·2	58·0	72·5	78·9	63·4	82·3	26·3	56·0	26th	88·4	39·6	21st	48·8
Year ...	80·0	73·7	83·1	86·5	76·7	91·2	19·1	72·1	.....	111·2	62·4	.....	48·8

SAUGOR ISLAND.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	67·5	60·8	71·1	74·4	63·7	74·7	16·0	58·7	3rd	78·1	31·5	7th	46·6
February ...	73·3	69·5	75·3	78·3	70·3	78·5	11·3	67·2	28th	85·0	30·2	16th	54·8
March ...	79·2	75·6	81·0	83·2	77·0	84·9	11·0	73·9	27th	92·7	31·8	12th	60·9
April ...	83·5	81·1	85·6	86·2	81·3	87·8	8·0	79·8	22nd	89·9	17·2	28th	72·7
May ...	85·9	83·3	87·9	88·2	84·2	89·4	7·1	82·3	30th	91·8	19·9	30th	71·9
June ...	84·8	82·6	86·3	86·7	83·5	88·4	7·7	80·7	14th	91·2	17·9	8th	73·3
July ...	84·4	81·9	86·1	86·4	83·4	88·0	7·3	80·7	18th	91·0	13·6	26th	77·4
August ...	83·7	81·4	84·8	85·5	83·0	86·7	7·0	79·7	30th	89·2	11·8	14th & 15th	77·4
September ...	83·4	81·3	84·9	84·9	82·7	87·1	7·4	79·7	23rd	90·3	14·5	11th	75·8
October ...	81·1	78·3	83·7	83·1	79·4	85·8	9·0	76·8	24th	90·1	19·5	21st	70·6
November ...	74·4	69·5	77·9	79·3	71·1	81·0	13·1	67·9	4th	87·0	29·0	29th	58·0
December ...	67·4	59·9	70·0	76·8	62·8	?	?	57·5	30th	78·5	28·7	20th	49·8
Year ...	79·1	75·4	81·2	82·7	76·9	...	?	73·7	...	92·7	46·1	.....	46·6

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

CHITTAGONG.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	64·6	55·6	66·9	73·6	62·4	77·2	24·8	52·4	31st	83·6	36·2	16th	47·4
February ...	71·0	63·6	74·1	78·2	68·2	82·5	22·3	60·2	1st	91·4	38·6	9th	52·8
March ...	75·7	67·3	80·0	82·3	73·3	86·0	21·5	64·5	29th	92·0	38·8	13th	53·2
April ...	82·0	76·2	86·6	85·9	79·4	90·0	15·9	74·1	28th	94·2	27·0	7th	67·2
May ...	83·5	77·8	86·4	87·5	82·3	90·8	15·4	75·4	8th	94·2	25·6	22nd	68·6
June ...	81·7	77·7	83·9	85·1	80·2	88·6	12·5	76·1	3rd	92·1	18·9	4th	73·2
July ...	82·0	78·3	84·6	85·1	80·1	88·8	12·4	76·4	26th	92·6	18·8	20th	73·8
August ...	81·3	78·0	83·8	84·0	79·6	87·9	11·5	76·4	31st	91·2	16·4	27th	74·8
September ..	80·9	77·6	83·1	83·9	79·2	86·9	11·0	75·9	3rd	91·3	17·7	7th	73·6
October ...	80·5	75·9	83·5	85·0	77·7	88·1	14·1	74·0	13th	91·1	21·3	20th	69·8
November ...	75·7	69·4	79·1	81·3	73·1	84·5	17·4	67·1	1st	90·4	38·2	25th	52·2
December ...	67·7	59·2	70·6	75·4	65·8	78·8	22·9	55·9	14th	83·9	31·3	22nd	52·6
Year ...	77·2	71·4	80·2	82·3	75·1	85·8	16·8	69·0	.....	94·2	46·8	.....	47·4

CALCUTTA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	66·9	59·9	68·3	74·8	64·6	76·5	18·4	58·1	12th	84·5	33·1	9th	51·4
February ...	72·5	67·1	72·9	79·6	70·5	80·1	14·2	65·9	22nd	89·3	32·3	16th	57·0
March ...	78·6	72·0	79·6	87·3	75·5	88·2	17·6	70·6	30th	96·4	33·0	13th	63·4
April ...	85·4	78·9	87·8	93·9	81·1	94·9	17·0	77·9	12th	103·5	33·0	28th	70·5
May ...	87·4	81·3	90·4	94·4	83·4	96·0	15·5	80·5	19th	101·5	28·6	1st	72·9
June ...	83·9	80·4	87·1	86·0	82·0	90·2	10·4	79·8	1st	97·0	20·0	10th	77·0
July ...	84·2	80·7	85·9	87·5	82·6	89·5	9·2	80·3	20th	94·2	16·0	31st	78·2
August ...	83·1	80·0	84·9	85·9	81·7	88·0	8·5	79·5	31st	92·5	15·0	23rd	77·5
September ...	83·0	80·3	85·0	84·9	81·7	88·0	8·5	79·5	22nd	93·7	18·2	11th	75·5
October ...	81·7	78·3	83·8	84·8	80·0	86·9	9·2	77·7	12th	91·0	17·0	21st	74·0
November ...	75·2	70·3	77·6	80·0	73·1	81·6	12·0	69·6	5th	87·3	26·0	30th	61·3
December ...	67·5	60·9	69·1	75·0	65·0	76·4	17·0	59·4	30th	79·3	25·4	21st	53·9
Year ...	79·1	74·2	81·0	84·5	76·8	86·3	13·1	73·2	.....	103·5	52·1	.....	51·4

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

BURDWAN.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	63·6	68·5	76·8	77·0	25·0	52·0	12th	85·5	41·5	16th	44·0
February ...	69·3	72·8	79·8	80·0	19·5	60·5	22nd	93·0	41·0	16th & 17th	52·0
March	76·1	81·4	89·8	90·4	26·5	63·9	31st	101·0	45·0	12th & 13th	56·0
April	86·7	90·2	99·2	100·9	26·0	74·9	12th	108·0	42·0	28th	66·0
May	87·7	93·3	100·4	102·4	27·4	75·0	19th	112·0	51·0	1st	61·0
June	84·7	87·5	87·1	92·1	13·9	78·2	14th	97·0	22·3	4th	74·7
July	85·1	87·3	87·6	91·1	11·9	79·2	19th	95·0	19·3	16th	75·7
August	83·8	85·9	86·6	89·6	10·9	78·7	31st	93·5	16·8	28th	76·7
September ...	83·4	85·8	86·6	89·1	10·6	78·5	2nd	93·5	19·3	4th	74·2
October	81·9	83·9	86·2	88·2	11·9	76·3	18th	96·5	24·0	31st	72·5
November ...	72·5	77·4	80·4	81·3	16·2	65·1	3rd	87·5	32·2	22nd	55·3
December ...	64·0	69·5	?	76·5	23·1	53·4	25th	81·0	33·3	20th	47·7
Year ...	78·2	82·0	.....	88·2	18·6	69·6	.....	112·0	68·0	.....	44·0

JESSORE.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	63·3	69·9	74·0	77·6	28·3	49·3	12th	87·0	47·5	15th	39·5
February ...	70·7	73·8	78·5	81·5	20·7	60·8	22nd	91·5	43·1	16th	48·4
March	77·3	81·0	89·1	91·0	26·1	64·9	31st	101·0	48·8	13th	52·2
April	85·2	88·5	94·4	97·4	22·1	75·3	18th	107·0	39·2	28th	67·8
May	87·5	91·2	94·1	98·8	20·5	78·3	3rd	104·9	34·9	1st	70·0
June	83·6	86·9	85·3	91·0	12·9	78·1	3rd	96·3	20·4	29th	75·9
July	83·5	86·8	86·4	90·3	11·7	78·6	20th	94·2	17·6	16th	76·6
August	82·9	85·9	86·1	89·6	11·6	78·0	30th	92·8	16·9	27th	75·9
September ...	82·5	85·4	85·2	89·1	11·5	77·6	2nd & 3rd	95·0	20·5	11th	74·5
October	81·2	84·8	84·7	88·5	13·2	75·3	12th	92·2	22·4	20th	69·8
November ...	73·2	79·2	79·9	83·2	18·3	64·9	2nd	88·8	37·0	22nd	51·8
December ...	64·4	72·4	74·4	78·3	26·4	51·9	26th	82·0	37·0	16th	45·0
Year ...	77·9	82·1	84·3	88·0	18·6	69·4	.....	107·0	67·5	.....	39·5

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

DACCA.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	63·7	54·0	67·7	73·1	59·9	75·5	23·4	52·1	12th	80·7	35·8	15th	44·9
February ...	70·6*	63·7	73·3	78·3	67·0	79·9	18·5	61·4	25th	88·6	36·1	17th	52·5
March ...	76·3	67·6	80·0	85·4	72·2	87·5	22·2	65·3	30th	95·9	40·5	13th	55·4
April ...	82·7	76·4	85·1	89·9	79·3	91·4	17·5	73·9	18th	96·2	30·3	8th	65·9
May ...	83·8	78·5	86·9	89·6	80·4	91·8	15·5	76·3	8th	95·7	26·9	2nd	68·8
June ...	83·4	80·1	86·0	85·9	81·5	89·2	10·5	78·7	14th	93·3	16·8	8th	76·5
July ...	84·0	81·1	85·9	86·2	83·0	88·7	8·9	79·8	27th	93·5	17·4	15th	76·1
August ...	83·6	80·6	85·2	86·0	82·4	88·5	9·4	79·1	19th	90·7	13·8	27th	76·9
September ...	83·0	80·1	85·5	85·2	81·1	88·1	9·6	78·5	23rd	94·1	19·1	11th	75·0
October ...	81·2	77·2	84·5	84·1	79·0	87·9	11·8	76·0	14th	91·5	20·9	20th	70·6
November ...	75·3	68·8	79·6	80·9	71·8	83·6	16·7	66·9	3rd	89·0	30·5	23rd	58·5
December ...	66·8	57·9	71·5	74·8	62·8	77·3	21·6	55·7	13th	81·9	28·9	31st	53·0
Year ...	77·9	72·2	80·9	83·3	75·0	85·8	15·5	70·3	.....	96·2	51·3	.....	44·9

SILCHAR.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	60·9	.....	60·3	71·8	57·8	74·0	24·7	49·3	21st	78·0	36·0	19th	42·0
February ...	66·5	60·2	67·4	74·2	64·1	76·0	17·7	58·3	22nd	84·0	34·0	9th	50·0
March ...	71·4	.....	72·5	79·7	.....	81·8	20·4	61·4	30th	87·8	35·8	13th	52·0
April ...	77·9	.....	78·5	85·3	.....	87·1	17·5	69·6	19th	93·2	31·2	7th	62·0
May ...	79·5	.....	80·6	84·7	.....	87·5	15·5	72·0	6th	93·2	27·2	19th	66·0
June ...	82·3	.....	83·5	86·7	.....	90·8	14·6	76·2	16th	96·5	24·5	2nd	72·0
July ...	82·5	.....	83·2	87·0	.....	90·1	13·1	77·0	27th	98·6	23·6	15th	75·0
August ...	82·5	.....	83·2	87·4	.....	89·6	12·7	76·9	1st	95·0	20·0	27th	75·0
September ...	81·2	.....	81·9	84·9	.....	88·2	12·1	76·1	23rd	94·7	21·7	12th & 13th	73·0
October ...	81·5	.....	82·7	87·0	.....	89·3	14·8	74·5	14th	93·5	22·5	27th	71·0
November ...	74·4	.....	77·8	82·2	.....	84·4	18·7	65·7	1st	91·0	36·0	29th	55·0
December ...	63·9	.....	66·4	75·9	.....	78·1	26·1	52·0	14th	81·2	33·7	21st	47·5
Year ...	75·4	.....	76·5	82·2	.....	84·7	17·3	67·4	.....	98·6	56·6	.....	42·0

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

HAZAREEBAGH.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	60·6	63·7	69·8	73·4	25·3	48·1	23rd	82·0	44·5	14th	37·5
February... ...	64·9	68·2	77·0	76·1	21·7	54·4	21st & 22nd	89·0	44·0	15th	45·0
March	72·1	77·8	81·9	85·5	26·0	59·5	31st	98·0	46·0	12th	52·0
April	85·5	91·5	95·1	99·5	28·1	71·4	21st	103·5	41·5	5th	62·0
May	89·7	95·3	98·8	103·4	26·3	77·1	19th to 22nd	107·0	37·0	1st	70·0
June	78·0	80·8	80·3	86·0	13·0	73·0	1st	97·0	28·0	2nd	69·0
July	78·9	81·7	82·0	86·3	13·0	73·3	21st	91·0	20·0	30th	71·0
August	77·9	80·2	80·3	84·7	11·9	72·8	18th	88·0	18·0	28th & 29th	70·0
September ...	78·9	80·7	80·1	85·7	13·4	72·3	17th	89·0	19·5	30th	69·5
October	74·5	77·2	78·7	81·7	13·8	67·9	2nd	87·0	26·0	31st	61·0
November ...	66·5	70·4	73·6	76·4	19·6	56·8	2nd	83·0	33·5	24th	49·5
December ...	60·9	65·0	69·9	72·6	23·4	49·2	25th	78·0	37·5	22nd	40·5
Year ...	74·0	77·7	80·6	84·3	19·6	64·7	.....	107·0	69·5	.....	37·5

BERHAMPORE.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	62·8	67·3	75·7	77·2	27·9	49·3	24th	85·0	44·0	16th	41·0
February... ...	69·2	72·5	80·0	81·2	22·8	58·4	22nd	92·0	43·0	16th	49·0
March	77·4	82·0	90·1	92·0	29·3	62·7	31st	103·0	49·0	13th	54·0
April	87·8	90·4	100·4	102·6	27·1	75·5	22nd & 23rd	110·0	42·5	28th	67·5
May	91·3	91·8	102·2	104·1	22·5	81·6	18th & 19th	113·5	40·5	1st	73·0
June	84·2	87·2	88·1	93·2	14·7	78·5	11th & 12th	98·0	21·5	4th	76·5
July	84·5	87·2	89·2	92·0	12·3	79·7	19th	97·0	21·0	16th	76·0
August	84·0	87·2	88·6	91·6	12·7	78·9	13th	94·0	17·0	5th	77·0
September ...	83·2	85·4	86·6	89·8	11·2	78·6	2nd	95·0	19·0	30th	76·0
October	81·8	84·1	86·2	88·7	12·6	76·1	13th	94·0	23·0	17th	71·0
November ...	74·1	77·0	81·3	82·3	16·5	65·8	3rd	89·0	34·0	22nd	55·0
December ...	65·4	68·7	75·6	77·0	22·6	54·4	30th	80·0	31·5	20th	48·5
Year ...	78·8	81·7	87·0	89·3	19·3	70·0	.....	113·5	72·5	.....	41·0

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

GYA.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January	62·4	65·7	74·0	75·6	27·4	48·6	12th	83·2	44·3	8th	38·9
February ...	69·4	72·6	77·4	80·0	22·8	57·2	12th	97·7	48·4	16th & 17th	49·3
March	78·8	84·0	88·4	91·9	27·9	64·0	31st	103·8	49·0	11th	54·8
April	91·6	97·6	102·6	105·5	28·9	76·6	21st	110·6	41·1	6th	69·5
May	97·3	103·9	106·4	110·0	25·9	84·1	10th	114·2	36·0	26th	78·2
June	84·8	87·9	85·7	93·0	14·7	78·3	1st	108·7	36·0	3rd	72·7
July	84·3	87·7	87·2	92·0	13·9	78·1	19th	97·3	22·3	20th	75·0
August	83·2	85·8	86·3	89·9	12·1	77·8	16th	93·8	18·9	10th	74·9
September ...	83·5	86·5	87·5	90·6	13·6	77·0	21st	94·7	20·2	30th	74·5
October	80·5	83·0	84·1	87·5	15·4	72·1	1st & 2nd	90·2	27·4	31st	62·8
November ...	70·1	75·5	78·8	80·8	23·7	57·1	3rd & 4th	84·8	34·3	21st	50·5
December ...	64·0	68·8	73·1	77·1	27·2	49·9	25th	80·6	36·5	18th	44·1
Year ...	79·2	83·2	86·0	89·5	21·1	68·4	.....	114·2	75·3	.....	38·9

PATNA.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January	60·9	63·8	70·0	73·0	26·1	46·9	30th	78·6	39·2	14th & 15th	39·4
February ...	67·0	70·1	76·6	79·0	25·8	53·2	22nd	88·2	43·2	15th	45·0
March	75·9	80·7	89·1	90·7	29·3	61·4	31st	101·6	49·7	2nd	51·9
April	89·2	93·1	100·9	103·9	30·8	73·1	22nd	110·2	42·3	2nd	67·9
May	94·1	97·1	105·5	108·1	27·8	80·3	18th	113·8	39·2	1st	74·6
June	85·1	87·3	87·0	93·2	14·0	79·2	1st	102·8	29·0	3rd	73·8
July	85·2	86·1	88·2	92·1	12·4	79·7	19th to 21st	96·4	21·4	22nd	75·0
August	85·1	86·1	87·2	90·9	10·6	80·3	28th	94·4	16·2	19th	78·2
September ...	84·0	84·9	86·4	89·8	11·1	78·7	19th	93·8	18·8	27th	75·0
October	81·1	83·0	84·7	87·8	14·3	73·5	17th	90·8	23·3	20th	67·5
November ...	71·0	74·5	78·7	81·2	21·8	59·4	4th	88·4	37·3	27th	51·1
December ...	62·8	65·5	71·8	74·0	24·2	49·8	9th	79·0	36·0	20th & 21st	43·0
Year ...	78·4	81·0	85·5	88·6	20·7	67·9	.....	113·8	74·4	.....	39·4

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

DEHREE.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.
January	63·2	63·7	72·5	75·0	24·3	50·7
February...	69·0	70·7	76·9	80·4	24·3	56·1
March	79·6	82·0	89·2	92·4	27·2	65·2
April	93·0	95·7	103·2	106·5	28·2	78·3
May	97·6	102·1	107·5	110·7	26·6	84·1
June	85·6	87·6	86·8	93·9	15·0	78·9
July	84·1	86·8	87·2	90·8	11·9	78·9
August	82·5	84·4	85·7	88·3	10·3	78·0
September	82·4	86·4	86·1	90·6	15·8	74·8
October	80·2	81·6	84·4	86·6	14·0	72·6
November	72·0	73·1	79·2	81·3	20·9	60·4
December	65·1	66·6	74·3	76·4	23·7	52·7
Year	79·5	81·7	86·1	89·4	20·2	69·2

MONGHYR.

	Mean.	10h.	16h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	60·9	63·0	71·3	72·1	21·3	50·8	30th	78·8	35·9	14th	42·9
February ...	66·9	68 5	76·3	76·9	20·1	56·8	24th	86·8	35·8	15th	51·0
March	76·1	77·7	86·7	87·6	24·8	62·8	31st	96·9	41·9	12th	55·0
April	87·1	89·0	97·6	98·8	24·4	74·4	22nd	104·4	37·3	28th	67·1
May	89·7	92·7	100·4	102·0	23·8	78·2	9th	109·4	38·2	26th	71·2
June	81·8	85·5	87·7	88·2	9·5	78·7	5th	96·9	22·7	13th	74·2
July	84·1	85·6	87·7	88·5	8·6	79·9	19th	95·9	19·7	26th	76·2
August	84·0	84·9	87·2	88·0	7·6	80·4	21st	90·9	12·7	8th	78·2
September ...	82·4	84·4	85·5	86·0	6·8	79·2	23rd	92·9	17·7	27th	75·2
October	80·2	82·5	85·0	85·8	11·1	74·7	10th to 12th	89·9	21·8	20th	68·1
November ...	71·0	72·4	78·5	79·2	16·0	63·2	4th	86·8	30·8	29th	56·0
December ...	62·9	64·6	71·3	72·3	18·4	53·9	6th & 7th	75·7	28·8	19th	46·9
Year ...	77·2	79·2	84·6	85·4	16·0	69·4	.....	109·4	66·5	.....	42·9

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

PURNEAH.

	10h.	16h.	Mean of maximum.	Highest Maximum.	
				Day.	⊖
January	Observatory opened on 1st June.				
February					
March					
April					
May					
June	84·2	86·7	91·5	1st	97·7
July	85·7	86·9	91·4	27th	95·7
August	85·2	85·6	90·6	22nd	94·7
September	82·4	83·5	89·7	23rd	93·7
October	82·8	85·0	92·0	8th & 9th	97·7
November	79·8	82·7	86·8	5th	93·7
December	64·5	70·9	75·1	22nd	78·9

DARJEELING.

	Mean.	4h.	10h.	16h.	22h.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
									Day.	⊖		Day.	⊖
January ...	39·0	34·0	41·9	43·4	36·7	46·7	14·5	32·2	22nd	54·0	28·0	16th & 17th	26·0
February ...	43·1	37·3	46·9	48·0	40·2	50·6	15·0	35·6	24th	62·0	32·0	7th	30·0
March ...	47·9	42·0	52·6	52·2	44·8	56·4	16·2	40·2	30th	62·0	27·8	20th	34·2
April ...	57·1	51·8	60·7	61·5	54·2	64·9	12·2	52·7	23rd	71·0	30·0	6th	41·0
May ...	60·7	55·2	64·6	65·2	57·7	69·0	15·4	53·6	6th	74·0	23·6	26th	50·4
June ...	61·7	58·2	64·0	65·0	59·8	67·3	10·3	57·0	22nd	71·0	17·8	2nd	53·2
July ...	63·5	59·5	66·2	66·9	61·5	69·4	11·2	58·2	20th	76·0	19·8	26th	56·2
August ...	63·4	59·8	65·6	66·1	61·9	68·7	10·4	58·3	1st	73·0	16·8	29th	56·2
September ...	61·4	56·8	63·7	65·0	60·0	67·3	11·6	55·7	23rd	72·0	20·6	28th	51·4
October ...	58·2	52·8	61·8	62·4	56·0	65·3	13·8	51·5	21st	69·0	22·6	27th	46·4
November ...	49·8	44·1	53·5	55·1	46·6	57·5	15·3	42·2	3rd	65·0	28·8	28th	36·2
December ...	43·8	38·3	47·8	49·0	40·2	51·9	15·4	36·5	13th	60·0	25·8	24th & 25th	34·2
Year ...	54·1	49·1	57·4	58·3	51·6	61·2	13·4	47·8	.....	76·0	50·0	.....	26·0

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Continued.*)

SIBSAGAR.

	Mean.	10*h*.	16*h*.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	54·4	56·3	63·3	64·1	15·4	48·7	21st	70·7	31·6	21st	39·1
February	61·6	62·6	68·5	67·7	12·8	54·9	25th	76·0	30·8	9th	45·2
March	65·5	66·9	74·6	73·9	16·0	57·9	31st	82·5	27·6	20th	54·9
April	73·1	73·6	78·5	79·7	13·3	66·4	13th	91·8	32·8	9th	59·0
May	74·2	74·0	78·5	79·6	9·0	70·6	31st	90·2	22·4	9th	67·8
June	81·8	83·2	86·8	88·2	10·4	77·8	13th	92·2	18·5	5th	73·7
July	83·7	83·1	86·4	87·9	9·3	78·6	27th	95·1	19·0	1st	76·1
August	81·9	82·2	86·7	88·1	10·0	78·1	1st	94·1	18·7	20th	75·4
September ...	80·3	81·7	85·5	87·4	11·2	76·2	7th	94·3	22·0	1st	72·3
October	77·3	79·1	84·1	85·3	12·2	73·1	2nd	91·9	24·1	25th	67·8
November ...	67·9	71·6	77·1	78·4	18·1	60·3	1st	85·6	35·1	30th	50·5
December ...	58·6	59·5	70·2	71·7	23·2	48·5	7th	75·5	34·0	23rd	41·5
Year ...	71·7	72·8	78·3	79·3	13·4	65·9	.....	95·1	56·0	.....	39·1

GOALPARA.

	Mean.	10*h*.	16*h*.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum.		Absolute range.	Lowest Minimum.	
							Day.	⊖		Day.	⊖
January	61·6	59·7	69·8	71·4	21·7	49·7	22nd	75·9	33·9	14th	42·0
February ...	66·1	66·9	74·0	75·9	20·5	55·4	25th	86·5	38·1	9th	48·4
March	71·6	72·4	80·2	81·9	22·1	59·8	27th	88·8	33·3	13th	55·5
April	76·6	77·7	84·3	85·4	17·3	68·1	13th	95·0	33·2	6th	61·8
May	77·9	78·1	83·8	84·9	14·5	70·4	8th	93·8	27·8	20th	66·0
June	81·0	81·4	84·5	87·5	12·5	75·0	4th	92·7	20·7	1st	72·0
July	80·9	81·5	84·3	86·2	10·3	75·9	27th	93·9	21·4	9th	72·5
August	82·1	84·0	85·2	88·3	11·8	76·5	2nd	93·1	19·3	20th & 21st	73·8
September ...	80·2	81·3	83·3	86·1	11·9	74·2	23rd	91·5	20·6	27th	70·9
October	78·6	80·2	83·1	85·0	13·2	71·8	2nd	90·3	23·5	30th	66·8
November ...	71·8	73·4	78·5	80·3	17·4	62·9	3rd	84·8	27·9	30th	56·9
December ...	64·7	62·7	72·2	73·8	19·8	54·0	18th	77·9	29·3	21st	48·6
Year ...	74·4	74·9	80·3	82·2	16·1	66·1	.....	95·0	53·0	.....	42·0

TABLE VII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY TEMPERATURES OF 1874.—(*Concluded.*)

BENARES.

	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	58·2	44·5	64·1	71·0	53·2	75·6	31·6	44·0	22nd	80·0	45·0	16th	35·0
February ...	65·6	53·7	70·2	78·9	59·7	81·7	31·2	50·5	22nd	90·0	47·0	17th	43·0
March ...	75·4	60·9	81·8	89·8	69·0	92·4	34·1	58·3	31st	104·0	55·0	12th	49·0
April ...	88·6	73·7	95·8	103·1	81·8	105·2	33·9	71·3	12th	109·0	46·0	1st	63·0
May ...	95·4	82·6	101·7	107·7	89·6	111·0	30·6	80·4	27th	115·0	41·8	7th	73·2
June ...	84·9	80·3	88·3	88·0	83·0	102·6	24·3	78·3	3rd	113·0	38·0	29th	75·0
July ...	84·1	80·1	86·8	87·5	82·1	93·2	14·8	78·4	28th—31st	96·0	22·0	6th	74·0
August ...	82·6	79·2	84·4	85·8	81·1	92·0	14·5	77·5	1st	96·0	20·5	7th	75·5
September...	82·9	78·4	86·1	86·8	80·3	92·6	15·9	76·7	19th—26th	95·0	22·0	30th	73·0
October ...	77·5	69·3	81·9	85·4	73·2	90·2	22·2	68·0	1st	93·0	34·0	31st	59·0
November...	67·1	54·8	73·8	79·5	60·1	84·9	32·2	52·7	5th & 6th	88·0	42·0	21st & 22nd	46·0
December ...	60·5	49·3	65·8	73·0	54·0	77·9	30·8	47·1	4th & 5th	82·0	41·0	21st	41·0
Year ...	76·9	67·2	81·7	86·4	72·3	91·6	26·3	65·3	...	115·0	80·0	.....	35·0

ROORKEE.

	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean of maximum.	Mean daily range.	Mean of minimum.	Highest Maximum. Day.	Highest Maximum. ⊖	Absolute range.	Lowest Minimum. Day.	Lowest Minimum. ⊖
January ...	54·1	45·4	55·0	64·8	51·2	67·1	25·0	42·1	29th	76·7	44·0	13th	32·7
February ...	60·4	50·9	62·9	71·2	56·6	73·2	25·8	47·4	22nd	82·7	42·5	14th	40·2
March ...	66·7	55·2	71·3	78·1	62·3	80·7	27·4	53·3	30th	94·7	53·0	12th	41·7
April ...	83·1	68·9	90·4	95·9	77·1	97·6	31·9	65·7	27th	105·9	50·2	5th & 6th	55·7
May ...	90·6	76·8	96·8	103·2	85·7	104·9	30·9	74·0	9th	110·6	45·9	3rd & 4th	64·7
June ...	85·8	80·0	87·5	92·1	83·5	94·8	17·6	77·2	1st	109·1	39·4	6th	69·7
July ...	82·8	78·8	83·3	87·6	81·5	89·2	11·9	77·3	22nd	96·7	25·4	8th	71·3
August ...	83·2	78·9	84·3	88·4	81·4	89·6	12·2	77·4	3rd	97·7	23·9	22nd	73·8
September...	81·5	75·0	83·7	88·8	78·7	90·6	17·4	73·2	19th	94·7	28·0	30th	66·7
October ...	75·9	62·6	82·8	89·0	69·3	90·9	30·7	60·2	10th	94·2	43·5	31st	50·7
November...	63·6	49·3	70·3	78·4	56·3	81·5	34·9	46·6	2nd & 3rd	90·7	50·5	21st	40·2
December ...	56·9	44·8	60·9	69·8	52·2	73·0	31·4	41·6	24th	78·7	45·0	26th	33·7
Year ...	73·7	63·9	77·4	83·9	69·6	86·1	24·8	61·3	.....	110·6	77·9	.....	32·7

TABLE VIII.—MEAN MONTHLY TEMPERATURES OF ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND CEYLON IN 1874.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Jhansi	61·7	67·0	75·5	89·5	95·2	87·2	84·2	81·3	83·5	80·2	71·2	65·4	78·5
Allahabad	58·5	65·2	75·5	90·6	95·5	85·7	83·7	82·2	83·5	77·5	64·7	59·9	76·9
Lucknow	57·5	65·0	74·7	88·2	96·8	86·0	85·5	84·0	84·0	79·0	68·0	61·1	77·5
Agra	56·8	63·5	73·3	87·5	93·0	88·0	84·0	83·0	82·2	78·5	63·2	61·5	76·6
Ajmere	58·2	65·3	74·7	87·3	93·2	88·5	84·0	80·5	?	80·2	63·5	62·2	?
Bareilly	55·3	61·7	69·7	85·0	92·0	85·0	82·8	82·3	81·3	76·7	64·6	57·6	74·5
Meerut	54·5	62·3	68·0	84·0	90·8	87·0	83·7	83·2	82·0	76·4	64·5	58·7	74·6
Saugor	61·1	66·9	74·8	85·9	90·0	78·7	76·7	74·1	77·9	75·7	70·4	65·8	74·3
Jubbulpore	59·5	66·1	73·7	85·4	92·0	84·2	78·3	76·1	79·0	73·4	63·7	60·9	74·1
Hoshungabad ...	65·9	69·2	77·7	87·0	93·2	81·3	78·6	77·4	80·7	77·8	69·8	67·2	77·1
Goruckpore	58·2	65·5	74·3	87·0	91·7	83·8	83·8	84·0	82·5	79·3	59·0	60·0	76·6
Chanda	69·3	74·7	80·3	89·9	93·9	83·3	79·4	78·5	79·0	76·8	67·2	64·2	78·0
Raipore	64·8	70·7	76·8	90·0	94·6	81·7	79·4	76·7	79·3	77·0	69·0	63·2	76·9
Sumbulpore	68·2	73·8	78·9	91·6	95·5	83·3	82·9	79·8	81·7	80·0	71·4	65·2	79·4
Akola	68·2	71·9	79·1	89·2	92·0	81·5	79·3	77·8	80·2	77·0	68·4	66·8	77·6
Omraoti	69·1	72·9	79·2	88·7	88·3	80·9	79·9	73·1	77·8	76·8	68·8	68·2	77·0
Seoni	62·4	67·7	73·9	84·5	88·1	78·8	76·7	74·7	76·7	72·7	64·0	62·4	73·5
Nagpore	68·2	73·3	79·8	90·7	93·1	82·6	79·6	78·1	79·6	78·1	68·8	67·4	78·3
Jaffna	77·7	80·0	83·1	86·0	84·0	83·3	82·5	83·1	82·8	81·7	80·2	77·8	81·8
Trincomalee ...	78·6	79·8	81·0	83·8	84·2	84·4	83·8	84·2	82·3	81·8	80·6	77·5	81·8
Colombo	79·3	79·8	81·5	83·1	82·1	81·4	80·4	81·2	80·7	79·9	79·7	79·1	80·7
Galle	78·0	79·6	80·6	82·1	81·0	80·3	78·7	80·3	79·4	79·3	79·5	78·0	79·7

TABLE IX.—MONTHLY MEAN TEMPERATURES OF 1874 REDUCED TO SEA-LEVEL.

Stations.	January.	Febrtuary.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	78·1	79·7	80·7	82·2	81·1	80·4	78·8	80·4	79·5	79·4	79·6	78·1	79·8
Colombo	79·4	79·9	81·6	83·2	82·2	81·5	80·5	81·3	80·8	80·0	79·8	79·2	80·8
Trincomalee	79·0	80·2	81·4	84·2	84·6	84·8	84·2	84·6	82·7	82·2	81·0	77·9	82·2
Jaffna	77·7	80·0	83·1	86·0	84·0	83·3	82·5	83·1	82·8	81·7	80·2	77·8	81·8
Nancowry	77·7	79·3	79·4	79·6	78·7	78·6	77·9	78·3	77·7	77·7	78·6	78·3	78·5
Port Blair	79·3	80·6	82·3	83·7	81·3	81·5	80·3	79·6	80·7	79·4	80·5	80·2	80·8
Madras	76·9	79·2	83·3	84·6	85·7	85·9	84·5	86·3	83·1	81·8	78·6	75·5	82·1
Vizagapatam ...	75·3	79·2	82·4	85·6	86·9	85·7	85·1	85·3	85·1	83·1	78·7	72·5	82·1
Akyab	67·1	72·6	76·9	82·6	85·3	81·9	81·8	80·6	81·8	81·6	78·1	70·4	78·4
False Point	69·9	75·7	79·4	83·4	85·4	85·0	84·7	82·2	84·1	81·6	73·6	66·7	79·3
Cuttack	71·3	76·6	81·7	87·3	89·3	84·1	83·6	82·0	82·7	90·0	74·4	68·4	80·2
Saugor Island ...	67·5	73·3	79·2	83·5	85·9	84·8	84·4	83·7	83·4	81·1	74·4	67·4	79·1
Chittagong	64·7	71·2	75·9	82·2	83·7	81·9	82·2	81·5	81·1	80·7	75·9	67·9	77·4
Calcutta	66·9	72·5	78·6	85·4	87·4	83·9	84·2	83·1	83·0	81·7	75·2	67·5	79·1
Burdwan	63·8	69·6	76·4	87·0	88·0	84·9	85·3	84·1	83·7	82·2	72·8	64·3	78·5
Jessore	63·3	70·7	77·3	85·2	87·5	83·6	83·5	82·9	82·5	81·2	73·2	64·4	77·9
Dacca	63·7	70·6	76·3	82·7	83·8	83·4	84·0	83·6	83·0	81·2	75·3	66·8	77·9
Silchar	60·8	66·7	71·6	78·1	79·7	82·5	82·7	82·7	81·4	81·7	74·6	64·1	75·6
Sibsagar	55·1	62·3	66·2	73·8	74·9	82·5	84·4	82·6	81·0	78·0	68·6	59·3	72·4
Goalpara	62·4	67·0	72·5	77·5	78·8	81·9	81·8	83·0	81·1	79·5	72·7	65·6	75·3
Berhampore	63·0	69·3	77·5	87·9	91·4	84·3	84·6	84·1	83·3	81·9	74·2	65·5	78·9
Monghyr	61·3	67·2	76·4	87·4	90·0	82·1	84·4	84·3	82·7	80·5	71·3	63·2	77·6
Hazareebagh ...	65·0	69·3	76·5	89·9	94·1	82·4	83·3	82·3	83·3	78·9	70·9	65·3	78·4
Gya	63·2	70·2	79·6	92·4	98·1	85·6	85·1	84·0	84·3	81·3	70·9	64·8	80·0
Dehreę	64·0	69·8	80·4	93·8	98·4	86·4	84·9	83·3	83·2	81·0	72·8	65·9	80·3
Patna	61·3	67·4	76·3	89·6	94·5	85·5	85·6	85·5	84·4	81·5	71·4	62·9	78·8
Goruckpore	58·8	66·1	74·9	87·6	92·3	84·4	84·4	84·6	83·1	79·9	69·6	60·6	77·2
Benares	58·8	66·2	76·0	89·2	96·0	85·5	84·7	83·2	83·5	78·1	67·7	61·1	77·5
Jhansi	63·8	69·1	77·6	91·6	97·3	89·3	86·3	83·4	85·6	82·3	73·3	67·5	80·6
Allahabad	59·1	65·8	76·1	91·1	96·1	86·3	84·3	82·8	84·1	78·1	65·3	60·5	77·5
Lucknow	58·3	65·8	75·5	89·0	97·6	86·8	86·3	84·8	84·8	79·8	68·8	61·9	78·3
Agra	58·0	64·7	74·5	88·7	94·2	89·2	85·2	84·2	83·4	79·7	69·4	62·7	77·8
Bareilly	56·6	63·0	71·0	86·3	93·3	86·3	84·1	83·6	82·6	78·0	65·9	58·9	75·8
Roorkee	56·1	62·4	68·7	85·1	92·6	87·8	84·8	85·2	83·5	77·9	65·6	58·9	75·7
Meerut	56·1	63·9	69·6	85·6	92·4	88·6	85·3	84·8	83·6	78·0	66·1	60·3	76·2
Ajmere	62·2	69·3	78·7	91·3	97·2	92·5	88·0	84·5	?	84·2	72·5	66·2	?
Saugor	65·2	71·0	78·9	90·0	94·1	82·8	80·8	78·2	82·0	79·8	74·5	69·9	78·9
Jubbulpore	62·5	69·1	76·7	88·4	95·0	84·2	81·3	79·1	82·0	76·4	66·7	63·9	77·1
Hoshangabad ...	68·1	71·4	79·9	89·2	95·4	83·5	80·8	79·6	82·9	80·0	72·0	69·4	79·3
Seoni	66·9	72·2	78·4	89·0	92·6	83·3	81·2	79·2	81·2	77·2	68·5	66·9	78·0
Nagpore	70·5	75·6	82·1	93·0	95·4	84·9	81·9	80·4	81·9	80·4	71·1	69·7	80·6
Raipore	67·0	72·9	79·0	92·2	96·8	83·9	81·6	78·9	81·5	79·2	71·2	65·4	79·1
Sumbulpore	69·2	74·8	79·9	92·6	96·5	84·3	83·9	80·8	82·7	81·0	72·4	66·2	80·4
Chanda	70·7	76·1	81·7	91·3	95·3	84·7	80·8	79·9	80·4	78·2	68·6	65·6	79·4
Akola	70·3	74·0	81·2	91·3	94·1	83·6	81·4	79·9	82·3	79·1	70·5	68·9	79·7
Omraoti	71·7	75·5	81·8	91·3	90·9	83·5	82·5	75·7	80·4	79·4	71·4	70·8	79·6

TABLE X.—AVERAGE MONTHLY TEMPERATURES DEDUCED FROM THE REGISTERS OF 1867—74.

STATIONS.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle... ...	5—6	78·2	79·6	81·4	82·1	82·0	80·6	79·7	80·0	79·7	80·1	79·5	78·9	80·1
Colombo ...	5—6	79·9	80·4	82·0	83·2	83·4	81·7	80·9	81·1	80·9	80·9	80·8	80·6	81·3
Trincomalee...	4—6	78·7	79·6	82·0	84·4	85·5	85·6	85·0	85·6	83·5	81·3	79·1	78·6	82·4
Port Blair ...	6—7	78·9	79·5	81·5	83·8	81·7	81·5	80·5	80·3	79·9	79·9	80·3	79·5	80·6
Madras ...	7	77·0	79·3	82·8	85·5	88·3	87·5	86·1	86·0	84·2	81·6	78·5	77·1	82·8
Vizagapatam..	5	76·5	79·1	83·1	86·1	88·3	87·3	84·5	85·4	84·8	82·9	79·7	75·4	82·8
Akyab ...	5—7	69·4	73·1	78·4	83·5	84·3	82·1	81·0	81·3	81·9	81·4	77·8	71·8	78·8
False Point ...	7	71·1	75·4	80·3	83·9	86·6	86·2	84·7	84·5	84·9	83·1	76·5	70·3	80·6
Cuttack ...	7	70·9	75·3	81·2	86·4	89·2	86·1	83·5	83·3	83·0	81·1	74·6	69·9	80·4
Saugor Island	6—7	69·0	74·3	80·3	84·0	85·8	85·6	83·8	83·7	83·4	80·9	75·0	68·4	79·5
Calcutta ...	7	68·5	73·3	80·1	84·3	85·9	84·6	83·3	83·2	83·0	81·7	75·5	68·9	79·4
Chittagong ...	7	67·1	71·6	77·8	81·6	83·0	82·0	81·1	81·2	81·4	80·3	74·8	68·4	77·5
Jessore ...	7	65·5	70·8	79·4	83·3	85·7	84·3	83·1	83·0	82·9	80·3	72·8	65·5	78·0
Dacca ...	6—7	66·4	72·1	79·1	82·1	83·5	83·8	83·3	83·6	83·3	81·3	75·1	68·3	78·5
Silchar ...	5—6	63·4	67·9	73·5	78·0	80·9	81·9	82·2	82·0	81·3	79·8	72·8	65·3	75·7
Goalpara ...	6	63·5	68·0	73·6	77·1	78·6	80·0	81·3	81·6	80·3	77·9	71·3	65·7	74·9
Darjeeling ...	7	42·0	44·4	50·4	56·2	60·2	62·9	63·8	63·8	61·9	57·6	50·4	44·5	54·8
Berhampore...	7	64·9	70·2	78·5	85·9	87·7	85·4	84·2	84·1	83·7	81·6	74·1	66·6	78·9
Monghyr ...	7	62·4	68·1	77·3	85·2	87·8	86·3	84·2	83·9	83·1	80·2	71·7	63·8	77·8
Hazareebagh..	6—7	61·5	65·9	74·7	83·4	86·5	82·0	78·8	78·0	77·6	74·3	68·0	61·7	74·4
Patna ...	6—7	61·0	66·1	76·9	85·1	89·0	87·7	84·5	84·0	83·2	79·2	69·8	62·5	77·4
Goruckpore ...	6	59·8	65·3	75·0	84·2	89·2	86·6	83·1	82·6	82·2	78·0	68·8	60·9	76·3
Benares ...	6—8	59·2	67·0	76·2	86·8	92·0	90·4	85·5	84·7	83·9	78·7	68·5	59·9	77·7
Jhansi ...	7—8	61·6	69·0	77·5	87·5	94·2	91·0	83·4	81·9	82·2	79·0	72·0	63·9	78·6
Allahabad ...	5—6	60·3	65·8	77·3	86·4	92·1	89·2	83·8	82·3	82·4	77·8	68·1	61·0	77·2
Lucknow ...	7	59·6	66·2	75·8	86·2	92·4	90·9	85·9	85·6	83·6	78·8	68·3	60·7	77·8
Bareilly ...	7—8	57·1	62·7	72·7	82·4	88·9	88·7	83·8	83·0	81·9	76·2	66·1	58·6	75·2
Roorkee ...	8	57·0	61·9	70·1	81·3	88·4	89·4	84·2	83·8	82·3	75·5	64·2	57·7	74·6
Agra... ...	7—8	59·0	65·2	75·4	86·0	92·5	92·5	85·8	83·7	82·8	78·9	69·5	62·0	77·8
Ajmere ...	7—8	59·1	66·3	75·1	86·0	92·0	91·2	84·7	82·1	84·3	79·5	70·6	63·5	77·9
Saugor ...	4—5	62·5	68·3	77·5	84·6	88·5	83·4	76·8	75·1	76·4	75·7	71·1	65·5	75·4
Jubbulpore ...	6	62·2	66·4	74·5	84·5	90·8	86·9	78·6	77·8	78·6	73·7	66·2	62·0	75·2
Hoshungabad.	5—6	66·7	70·9	78·8	88·0	93·1	86·8	78·9	78·5	79·7	77·3	71·6	68·4	78·2
Nagpore ...	5—6	68·8	73·9	81·4	88·0	93·3	86·1	78·7	78·8	78·9	77·0	71·2	67·8	78·7
Raipore ...	5—6	67·3	76·0	79·2	88·0	92·9	85·8	78·4	79·0	79·3	77·0	70·4	66·7	78·3
Chanda ...	4—5	68·2	74·1	81·0	89·6	92·3	86·1	79·2	79·1	78·7	76·1	70·4	66·8	78·5

TABLE XI.—COMPARISON OF THE TEMPERATURES OF 1874 WITH THE AVERAGES OF TABLE X.

STATIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Galle	−0·2	0	−0·8	0	−1·0	−0·3	−1·0	+0·3	−0·3	−0·8	0	−0·9	−0·4
Colombo	−0·6	−0·6	−0·5	−0·1	−1·3	−0·3	−0·5	+0·1	−0·2	−1·0	−1·1	−1·5	−0·6
Trincomalee ...	−0·1	+0·2	−1·0	−0·6	−1·3	−1·2	−1·2	−1·4	−1·2	+0·5	+1·5	−1·1	−0·6
Port Blair	+0·2	+1·0	+0·7	−0·2	−0·5	−0·1	−0·3	−0·8	+0·7	+0·6	+0·1	+0·6	+0·1
Madras	−0·1	−0·1	+0·5	−0·7	−2·6	−1·6	−1·6	+0·3	−1·1	+0·2	+0·1	−1·6	−0·7
Vizagapatam ...	−1·2	+0·1	−0·7	−0·5	−1·4	−1·6	+0·6	−0·1	+0·3	+0·2	−1·0	−2·9	−0·7
Akyab	−2·3	−0·5	−1·5	−0·9	+1·0	−0·2	+0·8	−0·7	−0·1	+0·2	+0·3	−1·4	−0·4
False Point	−1·2	+0·3	−0·9	−0·5	−1·2	−1·2	0	−2·3	−0·8	−1·5	−2·9	−3·6	−1·3
Cuttack	+0·2	+1·1	+0·3	+0·7	−0·1	−2·2	−0·1	−1·5	−0·5	−0·3	−0·4	−1·7	−0·4
Saugor Island ...	−1·5	−1·0	−1·1	−0·5	+0·1	−0·8	+0·6	0	0	+0·2	−0·6	−1·0	−0·4
Chittagong	−2·5	−0·6	−2·1	+0·4	+0·5	−0·3	+0·9	+0·1	−0·5	+0·2	+0·9	−0·7	−0·3
Calcutta	−1·6	−0·8	−1·5	+1·1	+1·5	−0·7	−0·9	−0·1	0	0	−0·3	−1·4	−0·3
Jessore	−2·2	−0·1	−2·1	+1·9	+1·8	−0·7	+0·4	−0·1	−0·4	+0·9	+0·4	−1·1	−0·1
Dacca	−2·7	−1·5	−2·8	+0·6	+0·3	−0·4	+0·7	0	−0·3	−0·1	+0·2	−1·5	−0·6
Silchar	−2·5	−1·4	−2·1	−0·1	−1·4	+0·4	+0·3	+0·5	−0·1	+1·7	+1·6	−1·4	−0·3
Berhampore ...	−2·1	−1·0	−1·1	+1·9	+3·6	−1·2	+0·3	−0·1	−0·5	+0·2	0	−1·2	−0·1
Goalpara	−1·9	−1·9	−2·0	−0·5	−0·7	+1·0	−0·4	+0·5	−0·1	+0·7	+0·5	−1·0	−0·5
Darjeeling	−3·0	−1·3	−2·5	+0·9	+0·5	−1·2	−0·3	−0·4	−0·5	+0·6	−0·6	−0·7	−0·7
Monghyr	−1·5	−1·2	−1·2	+1·9	+1·9	−4·5	−0·1	+0·1	−0·7	0	−0·7	−0·9	−0·6
Hazareebagh ...	−0·9	−1·0	−2·6	+2·1	+3·2	−4·0	+0·1	−0·1	+1·3	+0·2	−1·5	−0·8	−0·4
Patna	−0·1	+0·9	−1·0	+4·1	+5·1	−2·6	+0·7	+1·1	+0·8	+1·9	+1·2	+0·3	+1·0
Benares	−1·0	−1·4	−0·8	+1·8	+3·4	−6·0	−1·4	−2·1	−1·0	−1·2	−1·4	+0·6	−0·8
Jhansi	+0·1	−2·0	−2·0	+2·0	+1·0	−3·8	+0·8	−0·6	+1·3	+1·2	−0·8	+1·5	−0·1
Goruckpore	−1·6	+0·2	−0·7	+2·8	+2·5	−2·8	+0·7	+1·4	+0·3	+1·3	+0·2	−0·9	+0·3
Allahabad	−1·8	−0·6	−1·8	+4·1	+3·4	−3·5	−0·1	−0·1	+1·1	−0·3	−3·4	−1·1	−0·3
Lucknow	−2·1	−1·2	−1·1	+2·0	+4·4	−4·9	−0·4	−1·6	+0·4	+0·2	−0·3	+0·4	−0·3
Bareilly	−1·8	−1·0	−3·0	+2·6	+3·1	−3·7	−1·0	−0·7	−0·6	+0·5	−1·5	−1·0	−0·7
Agra	−2·2	−1·7	−2·1	+1·5	+0·5	−4·5	−1·8	−0·7	−0·6	−0·4	−1·3	−0·5	−1·2
Ajmere	−0·9	−1·0	−0·4	+1·3	+1·2	−2·7	−0·7	−1·6	?	+0·7	−2·1	−1·3	?
Roorkee	−2·9	−1·5	−3·4	+1·8	+2·2	−3·6	−1·4	−0·6	−0·8	+0·4	−0·6	−0·8	−0·9
Saugor	−1·4	−1·4	−2·7	+1·3	+1·5	−4·7	−0·1	−1·0	+1·5	0	−0·7	+0·3	−0·6
Jubbulpore	−2·7	−0·3	−0·8	+0·9	+1·2	−5·7	−0·3	−1·7	+0·4	−0·3	−2·5	−1·1	−1·1
Hoshungabad ...	−0·8	−1·7	−1·1	−1·0	+0·1	−5·5	−0·3	−1·1	+1·0	+0·5	−1·8	−1·2	−1·1
Nagpore	−0·6	−0·6	−1·6	+2·7	−0·2	−3·5	+0·9	−0·7	+0·7	+1·1	−2·4	−0·4	−0·4
Raipore	−2·5	−5·3	−2·4	+2·0	+1·7	−4·1	+1·0	−2·3	0	0	−1·4	−3·5	−1·4
Chanda	+1·1	+0·6	−0·7	+0·3	+1·6	−2·8	+0·2	−0·6	+0·3	+0·7	−3·2	−2·6	−0·5

In January a rapid fall of temperature from December of the preceding year brought it much below the average throughout almost the whole of the area to which Table XI refers. This was especially the case in the eastern and northern districts of Bengal, in Assam, and in the North-Western and Central Provinces. The greatest deviations of mean temperature were at Darjeeling (3° below the average), Roorkee (2·9°), Jubbulpore (2·7°), and Dacca (2·7°). At Cuttack, however, and also at Port Blair, the temperature was somewhat above the average, and continued so during the two following months. In Northern India generally, however, the cold during this month was excessive, and minimum temperatures unexampled in the oldest records were registered: such as 32·7° at Roorkee, 35° at Benares, 26° at Darjeeling, 39·4° at Patna, and 39·5° even as far south as Jessore.

In February, except in the south of the Bay, in Orissa, at Patna, Goruckpore, and Chanda, the deficiency of temperature was persistent, but not on the whole so decided as in January. In March, however, the defect again became excessive, the only exceptions being Port Blair, Madras, and Cuttack, where the temperature ranged higher than usual. The greatest deviations of mean temperature in this month were at Bareilly (3° below average), Roorkee (3·4°), and Dacca (2·8°).

In April a rapid increase of temperature brought it above the average, except round the shores of the Bay, in Assam, and at Hoshungabad in the Central Provinces. The excess was very considerable in Behar and the North-Western Provinces, while it was not so decided in Bengal, but more so in Central India, with the exception noted above. The greatest deviations were at Patna (4·1° above average) and at Allahabad (4·1°). In this month the region of highest temperature, which in the preceding months had been across the Bay from Ceylon to the Andaman Islands, was transferred to Central India, but extended very much further northwards and eastwards than usual, so as to include portions of Chutia Nagpore and the North-Western Provinces. Partly including, but mostly north of this region of maximum temperature, was the region of lowest pressure before noticed.

In May the excessive heat in Chutia Nagpore, Behar, and the North-Western Provinces continued. The greatest deviations were now at Patna (5·1° above average) and at Lucknow (4·4°); while maximum temperatures in the shade of 113·5° at Berhampore on the 18th and 19th, 114·2° at Gya on the 10th, 113·8° at Patna on the 18th, and 115° at Benares on the 27th were registered. In the south of the Bay, on the other hand, the temperature was considerably below the average. At Madras the deficiency amounted to 2·6°. The highest mean temperatures in this month were at Gya, Dehree, and Lucknow, near the northern boundary of the region of maximum heat, terminated by the isothermal of 95°, which, as in the preceding month, was considerably north of its normal position. The area of minimum pressure which stretched from Hazareebagh to Roorkee, mostly north of the Ganges, as before noticed, included the northern portion of the region of maximum heat.

The early and unusually heavy rainfall in June throughout the Central Provinces, Chutia Nagpore, Behar, and the North-Western Provinces brought the temperature in those regions very abnormally below the average of the month. In Bengal there was a slight deficiency, but a more considerable one at Cuttack; while in Assam the temperature ranged above the average. The greatest deviations were at Benares (6° below average), Jubbulpore (5·7°), Hoshungabad (5·5°), and Lucknow (4·9°). In this month, a region of *relatively* high temperature, bounded by the isothermal of 85°, extended in a W.N.W. direction from False Point and Balasore towards Jhansi and Barielly. Within this region, which included northern Orissa, Chutia Nagpore, the south-western districts of Behar, and the greater portion of the North-Western Provinces, the temperature, although much below the average for the month, was somewhat higher than that to the north and to the south. Running in the same general direction, but further to the westwards lay the trough of relatively low pressure which has been before noticed. The highest temperature in the region to which the tables refer was 92·5° (2·7° below average) at Ajmere in Rajputana, while the lowest (reduced to sea-level) was 78·6° at Nancowry in the Nicobars.

The deviations of temperature from normal values during the remaining months of the year were in no cases of that decided nature which had characterized the fluctuations of this element up to the end of June. Generally it may be stated that the temperature in July was below the average in the south of the Bay, somewhat above average in Bengal, while it continued below average in the North-Western Provinces. In August there was a deficiency of temperature in Southern Orissa, which continued for the remainder of the year. The temperature was below average in the Central and North-Western Provinces, and slightly so in Bengal. In Behar, however, as also in Assam, it ranged higher than usual. While the temperature in Bengal continued below the average in September, that in the North-Western and Central Provinces was slightly in excess.

In October, except at False Point and Cuttack, where it continued low throughout the latter months of the year, the temperature was generally above the average. In this month, with the exception of Ajmere, the highest temperature was at Vizagapatam; and on the eastern side of the Bay, Port Blair was hotter than Nancowry, and Akyab was hotter than Chittagong. It would thus appear (if the observations at Nancowry can be depended upon) that a region of relatively high temperature extended across the Bay in about the same locality as the area of barometric depression before alluded to.

In November the temperature fell below the average in the North-Western and Central Provinces, but was above the average at Trincomalee and Port Blair. In this month the region of highest temperature was transferred further south, and now extended across the Bay from the north of Ceylon to the Andaman Islands. It included the area of minimum pressure which has been shown to have existed in the same locality at the time.

In December, with the exceptions of Port Blair, Patna, and Goruckpore, the temperature was below the average over the whole of the area considered. In this month the eastern portion of the area of high temperature across the Bay appears to have moved somewhat further south. But the maximum temperature, which was at Port Blair, continued still 2° higher than that of Nancowry.

TEMPERATURE OF RADIATION.

TABLES of the diurnal maximum temperature of solar radiation are given for twenty-three stations. Except at Vizagapatam the observations have been made with maximum self-registering thermometers on Negretti and Zambra's patented principle, with blackened bulbs enclosed in a vacuum tube. The instrument in use at Vizagapatam is unprotected. The thermometers are supported on forked sticks over grass one foot above the ground.

Table XIII gives the mean maximum temperature of solar radiation observed with protected instruments at fourteen additional stations in the North-Western and Central Provinces.

Table XIV gives the average maximum temperature of solar radiation for sixteen stations. The greatest and least number of years from which the averages in the different months have been calculated are shown in the first column. Table XV shows the differences between these averages and the corresponding data for 1874.

In Table XVI the tabulated mean readings of a Rutherford's minimum thermometer, placed on forked sticks immediately over the grass, and allowed to radiate its heat during the night time, are given for seventeen stations. I have rejected the results furnished by two stations, Nancowry and Purneah, as erroneous, in consequence of the instruments being frequently out of order owing to the breaking of the spirit-column. Grass radiation thermometers are practically more liable to derangement than other instruments of a like construction. The fact that they have to be removed during the day time from their place of exposure is probably sufficient to account for this. The restoration of the continuity of the spirit-column is not a matter of much difficulty for an experienced hand. But with unskilled observers, perhaps owing in some cases to over-caution, it is a difficulty which often appears to be insurmountable. On the other hand, an incautious attempt frequently results in the destruction of the instrument. It thus happens that unavoidable hiatuses in the records of the grass radiation thermometer are more frequent than in the case of other elements.

TABLE XII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.

	PORT BLAIR.					NANCOWRY.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	142·7	25th	150·0	29th	114·	151·1	6th	191·0	7th	100
February	145·2	4th	149·0	28th	140·	159·2	16th	188·0	21st	150
March	148·4	19th	156·0	2nd	143·	165·6	22nd & 23rd	171·0	1st	159
April	152·2	27th	157·0	29th	145·	162·2	28th	171·0	3rd	158
May	139·1	2nd	158·0	28th	102·	162·8	11th	176·0	30th	156
June	134·9	9th	161·0	20th	98·	158·7	19th	168·0	26th	149
July	138·5	14th	161·0	20th	102·	156·8	9th	169·0	11th	118
August	135·0	31st	155·0	1st	110·	152·5	18th & 19th	159·0	14th & 15th	144
September	144·5	9th	159·0	30th	114·	151·2	16th	164·0	15th	139
October	142·7	11th	160·0	4th	101·	147·9	16th	159·0	24th	127
November	148·7	23rd	162·0	6th	125·	151·1	11th	166·0	3rd	129
December	150·4	8th	162·0	22nd	140·0	148·8	22nd	160·0	19th	125

	VIZAGAPATAM.*					AKYAB.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	109·7	28th	113·0	3rd	104·0	133·8	31st	140·0	22nd	129·0
February	115·8	22nd	125·0	1st	108·0	142·2	24th	147·0	8th	135·0
March	114·6	18th	119·3	30th	107·0	144·5	18th	151·0	20th	117·0
April	113·7	29th & 30th	121·0	1st	108·0	149·4	30th	155·0	1st	143·0
May	121·1	26th	126·0	27th	116·3	149·6	11th	164·0	30th	102·0
June	119·3	6th & 7th	126·0	19th	111·0	136·7	9th	150·5	18th	95·5
July	115·0	12th	127·0	9th	93·5	141·5	6th	157·0	30th	86·0
August	116·9	31st	129·0	23rd	100·0	136·8	10th	157·0	24th	101·0
September	119·1	1st	129·0	25th	110·0	146·8	15th	159·0	8th	96·0
October	116·7	20th	124·0	7th	99·0	142·0	21st	151·0	26th	90·0
November	115·6	20th—22nd	123·0	24th	109·0	136·8	28th	158·0	9th	79·0
December	110·4	4th	117·0	13th	90·0	131·6	13th	145·0	25th & 26th	125·0

* This instrument is not in vacuo.

TABLE XII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Continued.*)

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	139·0	21st	145·3	25th	115·3	129·3	9th	143·0	25th	108·0
February	144·3	28th	154·0	15th	137·3	133·5	5th	140·2	6th	123·8
March	149·0	25th	154·9	4th	143·8	134·9	27th	143·8	16th	112·5
April	155·9	24th	163·8	3rd	145·2	142·2	29th	147·8	3rd	131·5
May	159·6	18th	171·0	29th	149·0	145·7	28th	152·7	13th	138·0
June	147·2	23rd	160·0	17th	82·0	138·6	7th	155·2	18th	106·0
July	148·3	2nd	162·0	27th	99·0	139·8	1st	151·8	28th	90·2
August	138·7	31st	159·8	26th	96·0	142·1	9th & 10th	155·0	4th	109·0
September	149·2	18th	161·0	26th	115·2	137·3	23rd	159·2	26th	90·1
October	141·4	17th	157·9	15th	97·3	138·1	10th	155·0	27th	90·0
November	137·5	18th	150·7	2nd	83·9	139·3	3rd	151·0	12th	113·8
December	136·5	9th	140·6	17th	133·8	133·3	28th	137·0	26th	122·7

	CHITTAGONG.					CALCUTTA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	130·7	26th	141·4	15th	124·6	130·1	23rd	135·6	20th	121·0
February	137·0	28th	147·7	6th	98·0	130·9	22nd	142·0	6th	97·0
March	142·6	29th	150·0	25th	137·0	139·6	25th	148·3	5th	131·9
April	146·0	25th	154·8	5th	137·3	145·0	12th	154·7	3rd	136·5
May	146·4	10th	155·1	12th	132·0	144·1	19th	149·0	24th	136·9
June	146·1	15th	160·8	27th	105·8	140·9	26th	149·2	27th	111·7
July	148·5	26th	156·9	30th	133·9	136·5	2nd	151·0	30th	117·5
August	147·4	31st	160·0	24th	112·2	138·8	20th	149·0	13th	117·0
September	141·7	21st	158·0	10th	97·0	140·3	5th	149·8	12th	102·0
October	144·6	14th	158·2	26th	89·8	146·3	10th	148·7	2nd	114·0
November	139·7	6th	155·0	13th	90·8	128·8	3rd	141·8	12th	116·0
December	132·6	4th	141·0	11th	123·0	126·0	30th	134·0	16th	116·0

TABLE XII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Continued.*)

	BURDWAN.					JESSORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	128·7	31st	137·0	25th	104·0	127·9	30th	146·0	25th	77·2
February...	127·7	24th	145·0	5th	70·0	131·2	23rd	144·2	5th & 6th	90·9
March	140·2	31st	150·0	16th	101·0	142·0	30th	149·9	5th	129·6
April	151·3	23rd	158·0	29th	142·0	149·4	12th	156·9	28th	144·6
May	156·4	19th & 20th	165·0	1st	144·0	151·0	20th	156·0	1st	144·0
June	154·8	4th	164·0	18th	130·0	149·5	4th	158·0	27th	111·9
July	146·7	2nd	159·0	29th	91·0	145·5	10th	155·6	30th	109·3
August	139·8	17th	160·0	26th	97·0	147·7	31st	156·8	3rd	124·3
September	Instrument out of order.					141·1	23rd	156·0	11th	86·0
October	143·9	12th	159·0	16th	88·0	144·2	10th	156·2	15th	114·6
November	143·5	5th	157·0	25th	136·0	139·2	4th	152·2	13th	113·8
December	135·0	20th	146·0	28th	131·0	130·9	3rd	138·0	22nd	127·0

	DACCA.					SILCHAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	124·5	28th	132·0	25th	83·6	116·6	28th	137·0	25th	67·0
February...	131·3	24th	146·8	1st	91·8	119·1	25th	136·0	1st	67·0
March	143·5	10th	151·0	5th	125·3	128·3	26th	142·0	16th	87·0
April	149·5	12th	155·7	6th	142·0	137·9	22nd	152·0	8th	120·0
May	148·4	31st	158·0	13th	128·6	136·9	7th	156·0	16th	96·0
June	149·6	9th	160·5	18th	127·0	152·3	22nd	164·0	11th	109·0
July	147·0	21st	160·0	15th	100·0	148·9	25th	164·0	14th	95·0
August	152·4	29th & 30th	163·0	3rd	144·6	150·5	15th	163·0	26th	106·0
September	146·4	1st & 2nd	165·0	11th	101·0	149·9	23rd	160·0	11th	115·0
October	145·6	2nd	156·5	15th	99·0	149·2	30th	163·0	26th	118·0
November	140·1	4th	155·3	12th	120·0	140·5	7th	152·0	12th	99·0
December	132·0	7th	137·0	25th	127·0	136·8	2nd	141·0	26th	134·0

TABLE XII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Continued.*)

	HAZAREEBAGH.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	128·0	30th	141·0	13th	119·0	120·8	12th	131·0	25th	95·0
February	126·6	21st	146·0	5th	72·0	127·9	25th	139·0	5th	104·0
March	138·8	31st	148·5	6th	111·0	144·7	30th & 31st	154·0	6th	134·0
April	151·3	30th	159·0	5th	143·0	156·1	23rd	166·0	28th	141·0
May	155·9	7th	167·0	2nd	148·5	155·5	18th & 19th	165·0	28th	137·0
June	141·5	30th	157·0	26th	110·5	153·1	7th	166·0	25th	123·0
July	145·1	20th	153·0	29th	117·5	150·2	21st	158·0	23rd	121·0
August	146·3	21st	157·5	23rd	114·5	152·8	13th	161·0	2nd	144·0
September	145·6	4th	155·0	28th	128·5	145·1	2nd & 3rd	161·0	19th	124·0
October	137·1	8th	151·5	27th	83·0	140·7	2nd	156·0	16th	96·0
November	130·7	11th	145·0	22nd	123·5	129·5	3rd & 4th	143·0	28th	120·0
December	124·8	10th	140·5	22nd	120·0	118·2	23rd	124·0	9th	110·0

	GYA.					PATNA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	93·7	30th	105·9	13th	82·6	128·5	25th	138·4	13th	118·8
February	106·4	22nd	120·0	5th	77·2	133·4	27th	142·2	5th	112·8
March	124·2	31st	137·0	11th	112·0	145·5	30th	152·2	9th	138·0
April	138·5	11th	148·0	5th	130·0	154·2	23rd	165·2	28th	142·0
May	144·5	10th	159·9	12th	132·0	159·6	18th	167·4	28th	148·8
June	128·7	1st	150·5	19th	94·1	149·5	8th	160·2	19th	131·8
July	131·7	11th	139·9	29th	120·0	149·7	21st	160·2	5th	136·0
August	129·5	30th	139·0	2nd	120·0	149·5	8th	159·8	30th	140·8
September	130·0	19th & 20th	135·0	7th	114·0	147·9	22nd	156·8	26th	132·8
October	117·5	1st & 2nd	130·0	29th	94·5	144·7	3rd	158·4	28th	99·4
November	88·6	4th	96·4	30th	80·0	138·8	4th	146·0	28th	132·0
December	80·0	25th	89·2	31st	78·0	129·4	9th	134·8	28th	121·4

TABLE XII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Continued.*)

	MONGHYR.					PURNEAH.				
	Mean.	Maximum.		Minimum.		Mean	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	128·5	30th	136·0	13th	115·0	...	.....	...	.....	...
February...	130·6	21st & 22nd	141·0	23rd	90·0	...	.....	...	.....	...
March	144·6	27th—31st	150·0	11th	135·0	...	.....	...	.....	...
April	154·3	24th	165·0	28th	145·0	...	.....	...	.....	...
May	157·3	6th	167·0	26th	145·0	...	.....	...	.....	...
June	147·5	1st	162·0	13th	100·0	143·4	1st	162·0	27th	120·0
July	146·8	10th	155·0	14th	129·0	141·6	27th	155·0	4th	126·0
August	150·6	22nd	159·0	8th	146·0	145·6	29th	159·0	30th	128·2
September	147·9	17th	159·0	25th	129·0	143·1	21st	159·0	25th	97·0
October	146·5	14th	154·0	28th	110·0	144·5	5th	159·0	30th & 31st	130·0
November	137·5	4th	147·0	24th	129·0	134·3	2nd—4th	145·0	26th	124·4
December	125·7	7th	131·0	27th	120·0	122·4	8th	128·3	29th	118·1

	DARJEELING.					SIBSAGAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	96·1	22nd	110·0	28th	70·0	119·1	31st	135·0	26th	85·6
February	98·7	22nd	120·0	6th	52·0	122·5	24th	142·1	1st	71·8
March	108·0	24th	123·0	4th	86·0	133·8	11th	149·2	8th	95·1
April	115·7	18th & 19th	125·0	27th	100·0	134·3	11th	156·8	16th	86·2
May	122·9	18th	133·0	11th	98·0	129·8	31st	155·0	15th	91·1
June	113·8	17th	132·0	19th	86·0	147·6	23rd	160·0	30th	90·2
July	117·5	27th	139·0	29th	91·0	146·2	27th	158·0	19th	118·7
August	116·5	1st	134·0	3rd	97·0	146·9	1st	157·0	7th	113·0
September	118·1	20th	134·0	26th	98·0	148·8	22nd	160·4	8th	106·1
October	116·7	1st	133·0	29th	72·0	143·2	10th	159·9	27th	104·0
November	114·3	1st	128·0	19th	88·0	137·1	1st	147·8	29th	129·9
December	105·8	13th	120·0	9th	78·0	125·6	6th	137·0	26th	111·0

TABLE XII.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF THE EXPOSED BLACK-BULB THERMOMETER IN VACUO.—(*Concluded.*)

	GOALPARA.					BENARES.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	116·3	4th	125·1	25th	62·1	90·9	15th	122·0	28th	77·0
February	120·1	25th	133·5	10th	97·8	105·3	19th & 20th	137·0	5th	74·0
March	131·9	20th	140·3	16th	112·6	138·1	31st	156·0	4th	94·0
April	139·3	18th	148·4	30th	107·9	156·2	21st	168·0	1st	140·0
May	141·4	31st	152·4	12th	103·6	159·1	24th	165·0	6th	149·0
June	143·9	13th	157·5	25th	97·7	142·3	3rd	160·0	27th	99·0
July	137·2	19th	154·8	14th	92·5	138·2	29th	154·0	5th	93·0
August	145·7	6th	156·2	7th	102·2	133·2	18th	151·0	8th	95·0
September	135·7	7th	157·5	26th	83·5	139·2	6th	151·0	9th	97·0
October	135·8	18th	150·1	28th	83·2	135·9	16th	143·0	29th	102·0
November	131·6	1st	140·1	22nd	124·9	130·3	4th & 5th	137·0	28th	125·0
December	116·5	3rd	126·6	28th	99·8	115·5	8th	126·0	26th	92·0

ROORKEE.

	Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖
January	110·9	30th	128·0	1st	63·2
February	123·5	20th	133·4	5th	93·4
March	131·8	30th	150·0	9th	114·0
April	150·3	12th	158·0	1st	134·0
May	157·1	10th	167·6	25th	141·0
June	147·4	1st	159·4	9th	82·4
July	135·1	31st	153·0	23rd	96·0
August	138·4	11th and 12th	152·0	15th	103·4
September	145·2	7th	156·6	11th	106·4
October	143·9	1st	148·6	31st	137·0
November	132·7	2nd	143·0	26th	122·8
December	121·0	7th	130·4	28th	94·0

TABLE XIII.—MEAN READINGS OF BLACK BULB MAXIMUM THERMOMETER IN VACUO AT ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES IN 1874.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Jhansi	119·0	127·0	137·0	152·0	157·0	144·0	137·0	128·0	132·0	135·8	129·7	123·2	135·1
Allahabad	135·0	146·0	156·0	166·0	169·0	152·0	146·0	143·0	152·0	152·1	152·0	142·4	151·0
Lucknow	116·0	135·0	143·0	158·0	161·0	145·0	143·0	138·0	135·0	?	?	?	?
Agra	125·0	138·0	148·0	161·0	142·0	155·0	146·0	140·0	150·0	154·3	146·1	135·4	145·1
Ajmere	124·0	137·0	145·0	160·0	164·0	152·0	148·0	142·6	?	152·4	142·2	130·0	?
Bareilly	122·0	129·0	139·0	157·0	164·0	155·0	144·0	145·0	138·0	141·2	131·9	120·5	140·5
Meerut	111·0	123·0	123·0	137·0	140·0	141·0	127·0	125·0	129·0	128·4	121·5	114·0	126·7
Hoshungabad... ...	110·0	119·3	121·4	141·8	144·6	131·1	126·1	110·5	126·3	125·0	117·5	111·5	123·8
Goruckpore	129·0	136·0	151·0	160·0	164·0	151·0	144·0	147·0	145·0	143·0	136·1	123·0	144·1
Chanda	148·9	156·9	164·0	171·2	168·3	148·2	141·8	134·3	151·8	150·8	142·7	141·0	151·7
Akola	147·7	153·8	161·7	169·7	171·7	155·9	148·4	141·4	156·4	151·6	148·1	138·8	153·8
Omraoti	140·4	145·1	153·4	161·7	168·7	151·4	146·5	145·3	155·8	153·5	145·1	141·8	150·7
Seoni	131·5	137·2	142·9	152·8	155·1	138·2	138·5	123·8	140·0	142·0	136·0	133·5	139·3
Nagpore	131·0	136·1	146·9	154·6	154·7	132·7	125·9	118·9	134·6	136·1	130·4	125·8	135·6

TABLE XIV.—AVERAGE MONTHLY TEMPERATURES OF SOLAR RADIATION DEDUCED FROM THE REGISTERS OF 1868—1874.

Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair ...	6·7	148·6	148·6	155·2	156·5	145·5	137·0	138·8	141·5	144·1	147·4	148·5	149·4	146·8
Cuttack ...	4·5	136·5	142·3	147·6	154·0	158·8	149·7	144·6	145·1	149·6	143·6	137·3	134·2	145·3
Saugor Island ...	4·5	132·2	136·1	138·1	142·2	144·5	138·1	136·9	138·7	141·5	139·1	136·4	131·9	138·0
Chittagong ...	4·5	133·9	139·5	143·0	145·4	147·8	142·8	142·7	144·8	145·0	142·4	140·6	134·0	141·8
Calcutta ...	4·5	131·0	135·2	140·8	142·1	143·3	139·1	136·5	139·0	139·6	143·1	134·8	130·0	137·9
Jessore ...	5·7	131·3	136·1	144·2	147·4	148·9	142·6	142·7	144·5	144·3	144·7	138·2	132·4	141·4
Dacca ...	4·5	129·0	135·1	143·3	148·1	148·3	145·4	144·3	144·8	144·9	144·4	138·0	132·4	141·5
Silchar ...	5·6	121·6	126·1	131·1	134·6	137·9	136·7	137·5	135·1	133·9	134·8	129·6	124·8	132·0
Hazareebagh ...	6·7	130·5	134·7	142·4	154·3	158·5	150·0	144·2	146·3	147·1	140·7	135·7	128·9	142·8
Berhampore ...	5·7	126·7	135·0	141·7	151·6	153·1	146·1	143·4	146·8	144·7	142·5	135·3	126·0	141·1
Patna ...	5·7	123·7	132·0	143·4	151·0	154·8	150·1	144·6	143·8	143·3	141·3	134·8	125·9	140·7
Monghyr ...	5·7	127·2	134·5	145·6	153·5	156·1	151·0	147·6	147·0	146·5	143·4	136·2	127·7	143·0
Darjeeling ...	4·5	103·9	112·3	114·6	120·3	124·4	122·7	122·1	123·8	123·6	123·7	114·4	108·3	117·8
Goalpara ...	4·6	119·8	128·3	136·6	133·1	135·0	134·2	142·2	148·3	140·8	136·9	129·8	121·2	133·8
Roorkee ...	5·7	113·8	121·9	132·9	144·7	150·6	147·9	138·1	137·2	137·7	137·4	128·2	117·9	134·0
Lucknow ...	5·6	116·7	128·5	139·7	152·5	156·8	150·5	140·8	138·5	137·0	135·2	128·8	120·6	137·1

TABLE XV.—COMPARISON OF THE TEMPERATURES OF SOLAR RADIATION IN 1874 WITH THE AVERAGES OF TABLE XIV.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Port Blair	−5·9	−3·4	−6·8	−4·3	−6·4	−2·1	−0·3	−6·5	+0·4	−4·7	+0·2	+1·0	−3·2
Cuttack	+2·5	+1·0	+1·4	+1·9	+0·8	−2·5	+3·7	−6·4	−0·4	−2·2	+0·2	+2·3	+0·2
Saugor Island ...	−2·9	−2·6	−3·2	0	+1·2	+0·5	+2·9	+3·4	−4·2	— ·0	+2·9	+1·4	−0·1
Chittagong	−3·2	−2·5	−0·4	+0·6	−1·4	+3·3	+5·8	+2·6	−3·3	+2·1	−0·9	−1·4	+0·1
Calcutta	−0·9	−4·3	−1·2	+2·9	+0·8	+1·8	0	−0·2	+0·7	+3·2	−6·0	−4·0	−0·6
Jessore	−3·4	−4·9	−2·2	+2·0	+2·1	+6·9	+2·8	+3·2	−3·2	−0·5	+1·0	−1·5	+0·2
Dacca	−4·5	−3·8	+0·2	+1·4	+0·1	+4·2	+2·7	+7·6	+1·5	+1·2	+2·1	−0·4	+1·0
Silchar	−5·0	−7·0	−2·8	+3·3	−1·0	+15·6	+11·4	+15·4	+16·0	+14·4	+10·9	+12·0	+6·9
Hazareebagh	−2·5	−8·1	−3·6	−3·0	−2·6	−8·5	+0·9	0	−1·5	−3·6	−5·0	−4·1	−3·5
Berhampore	−5·9	−7·1	+3·0	+4·5	+2·4	+7·0	+6·8	+6·0	+0·4	−1·8	−5·8	−7·8	+0·1
Patna	+4·8	+1·4	+2·1	+3·2	+4·8	−0·6	+5·1	+5·7	+4·6	+3·4	+4·0	+3·5	+3·5
Monghyr	+1·3	−3·9	−1·0	+0·8	+1·2	−3·5	−0·8	+3·6	+1·4	+3·1	+1·3	−2·0	+0·1
Darjeeling	−7·8	−13·6	−6·6	−4·6	−1·5	−8·9	−4·6	−7·3	−5·5	−7·0	−0·1	−2·5	−5·9
Goalpara	−3·5	−8·2	−4·7	+6·2	+6·4	+9·7	−5·0	−2·6	−5·1	−1·1	+1·8	−4·7	−0·9
Roorkee	−2·9	+1·6	−1·1	+5·6	+6·5	−0·5	−3·0	+1·2	+7·5	+6·5	+4·5	+3·1	+2·4
Lucknow	−0·7	+6·5	+3·3	+5·5	+4·2	−5·5	+2·2	−0·5	−2·0	?	?	?	?

TABLE XVI.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.

	AKYAB.					CUTTACK.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	44·0	15th	54·1	16th	35·0	50·2	31st	66·7	15th	38·4
February	51·3	13th	59·2	5th	42·1	59·2	13th	67·0	16th	47·4
March	56·7	25th	71·3	13th	42·1	62·3	26th	71·1	3rd	50·7
April	69·6	26th	74·0	9th	63·0	70·8	27th	76·0	5th	65·0
May	75·3	22nd & 23rd	79·0	1st & 2nd	70·0	76·4	28th	80·5	30th	72·0
June	75·3	13th & 14th	78·0	27th	73·0	76·2	20th	78·5	6th	73·1
July	76·0	4th	81·0	31st	74·0	75·9	10th	77·5	17th	73·7
August	75·6	22nd	77·3	27th	73·3	75·7	18th	78·5	29th	72·2
September	75·5	28th	77·3	30th	74·3	75·7	13th	77·8	2nd	73·4
October	74·5	15th	77·3	29th	71·3	72·7	8th	75·9	31st	68·2
November	69·1	2nd	76·3	30th	60·2	59·3	2nd	73·2	30th	44·2
December	57·2	10th	70·2	30th	50·1	45·2	11th	63·2	21st	34·4

TABLE XVI.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Continued.*)

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day	⊖		Day.	⊖	Day.	⊖
January	53·8	30th	68·0	7th	39·0	49·8	31st	57·7	16th	44·5
February...	63·4	12th	74·8	16th	48·5	58·0	13th	66·7	9th	49·5
March	70·4	24th & 25th	76·6	1st	55·4	61·6	25th	69·5	13th	49·5
April	77·3	19th	80·2	30th	68·6	71·9	22nd	76·0	8th	64·5
May	80·3	25th & 26th	83·0	1st	69·0	74·2	20th	79·1	1st	69·1
June	77·5	20th	83·0	30th	71·9	75·4	16th	77·6	29th	72·4
July	77·6	7th	81·8	30th	74·0	75·4	24th	76·8	20th	73·6
August	77·5	24th	81·0	28th	75·0	75·3	31st	76·6	15th	73·6
September	74·7	3rd	79·5	11th	70·0	75·2	22nd	77·7	12th	70·8
October	...	Instrument broken.				73·4	20th	77·8	27th	69·7
November	...	Ditto ditto.				65·5	2nd	73·2	27th	53·9
December	...	Erroneous.				53·7	14th	61·2	10th	45·2

	BURDWAN.					JESSORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	47·3	31st	64·2	16th	36·8	41·4	31st	59·0	16th	31·9
February	55·5	23rd	67·7	16th	42·8	55·6	12th	69·2	16th	41·9
March	57·6	23rd & 24th	66·7	13th	46·8	57·5	25th	71·2	13th	45·0
April	71·0	27th	76·6	28th	62·7	71·9	21st	75·4	8th	64·0
May	Instrument out of order.					76·1	15th	80·0	1st	67·0
June	79·5	22nd & 23rd	79·0	4th	72·0	75·6	26th	77·8	4th	73·0
July	77·1	15th	79·0	16th	74·5	76·1	10th	78·0	19th & 20th	74·0
August	76·7	31st	78·0	28th & 29th	75·0	76·0	26th	78·0	5th	74·0
September	75·9	23rd & 24th	78·0	13th	73·0	75·5	23rd	78·7	11th	73·9
October	73·0	3rd	77·0	20th	66·0	71·8	2nd	77·0	20th	63·0
November	58·7	5th	74·0	30th	43·5	59·6	4th	71·0	30th	47·0
December	42·6	14th	50·0	20th	35·0	43·9	14th	50·0	16th	38·0

TABLE XVI.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Continued.*)

Months.	DACCA.					SILCHAR.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	46·0	25th	58·9	15th	37·3	45·7	31st	58·0	16th	37·0
February	57·4	12th	68·7	17th	46·3	54·8	24th	64·0	9th	47·0
March	59·6	26th	70·8	13th	46·3	57·9	27th	63·0	13th	47·0
April	71·5	20th	76·6	8th	62·2	66·9	24th	74·0	7th	59·0
May	74·6	19th	80·9	2nd	67·3	69·8	4th	74·0	19th	65·0
June	77·1	15th	79·0	8th	73·8	74·7	28th	77·0	2nd	70·0
July	77·5	6th	79·6	30th	74·6	75·6	19th	78·0	28th	73·0
August	76·2	9th	78·4	28th	74·4	75·3	25th	77·0	30th	73·0
September	74·7	19th	76·8	12th	71·3	74·4	24th	77·0	23rd	72·0
October	71·8	8th	75·0	20th	64·4	72·1	2nd	76·5	25th	67·5
November	60·7	1st	70·7	23rd	50·4	61·7	12th & 13th	70·0	29th	49·0
December	48·8	1st	52·7	31st	45·3	45·9	1st	52·0	21st	41·0

	HAZAREEBAGH.					BERHAMPORE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	33·9	25th	49·5	8th	23·0	35·1	25th	52·0	7th	26·0
February	41·7	23rd	54·0	15th	31·0	43·9	5th	53·0	24th	39·0
March	44·5	29th	54·0	12th	37·0	49·2	6th & 7th	56·0	13th	43·0
April	54·8	30th	61·5	5th	45·5	64·9	14th	74·0	5th	48·0
May	62·8	28th	68·5	1st	55·0	69·9	21st	73·0	1st to 3rd	60·0
June	68·0	24th	74·0	3rd	62·0	70·4	21st to 23rd	76·0	16th	64·0
July	71·1	15th	74·0	9th	68·0	73·9	24th	75·0	29th	71·0
August	71·5	8th & 9th	73·5	31st	67·0	73·1	27th	74·0	29th	71·0
September	70·3	27th & 28th	72·0	30th	65·0	73·1	16th	77·0	30th	71·0
October	63·5	29th	70·0	31st	53·0	68·0	12th	73·0	25th	62·0
November	47·8	4th	64·0	23rd	39·0	54·3	4th	68·0	22nd	41·0
December	39·7	9th	48·0	21st & 22nd	32·5	40·2	14th	47·0	22nd & 23rd	34·0

TABLE XVI.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Continued.*)

	GYA.					PATNA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	44·2	25th	57·5	8th	35·7	39·1	31st	52·9	14th	31·4
February...	52·2	23rd	64·5	16th	44·7	47·1	23rd	57·9	15th	39·2
March	56·0	16th	60·8	11th	48·3	56·7	29th	65·5	6th	42·4
April	67·1	27th	74·0	1st	59·0	69·4	17th	76·3	2nd	62·5
May	77·7	10th	85·0	2nd	71·0	76·9	16th	84·3	3rd	69·9
June	74·2	1st	84·9	2nd	71·0	77·2	1st	80·5	3rd	71·9
July	75·1	21st	78·2	6th	72·9	77·7	14th & 15th	79·8	5th	73·5
August	75·6	19th & 20th	77·5	10th	73·0	78·7	9th	87·8	28th	76·7
September	75·1	24th	78·0	30th	73·0	75·7	20th	79·6	10th	71·4
October	67·6	4th	75·0	20th	56·9	69·2	4th	76·0	20th	59·6
November	49·4	4th	65·0	29th	41·0	53·7	1st	68·2	23rd	45·8
December	40·7	11th	49·2	18th	35·0	45·1	10th	53·8	21st	38·2

	MONGHYR.					DARJEELING.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	44·1	25th	56·1	18th	38·0	26·3	23rd	30·0	17th	20·0
February...	52·0	23rd	61·1	4th	44·0	28·8	25th	32·0	15th	25·0
March	57·1	31st	64·1	2nd	51·1	32·7	31st	37·0	20th	27·0
April	70·3	18th	83·2	28th	64·1	40·2	13th	47·9	6th	31·0
May	75·1	22nd	82·2	24th	68·1	44·9	31st	48·9	1st	41·0
June	76·9	17th	83·2	14th	72·2	50·6	22nd	54·8	6th	45·9
July	77·2	22nd	81·2	26th	72·2	52·9	22nd & 23rd	54·8	4th	50·8
August	77·5	19th	82·2	31st	76·2	53·1	10th & 11th	55·8	20th	49·8
September	76·6	10th	80·2	29th & 30th	74·2	50·2	1st	53·8	27th & 28th	46·9
October	70·2	10th	77·2	22nd	59·1	45·3	12th	49·9	24th	38·0
November	Instrument broken.					35·4	1st	44·9	14th	30·0
December	Ditto					29·8	8th	33·0	21st	27·0

TABLE XVI.—MAXIMUM, MINIMUM, AND MEAN MONTHLY READINGS OF EXPOSED GRASS RADIATION THERMOMETER.—(*Concluded.*)

Months.	SIBSAGAR.					GOALPARA.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	43·0	26th	54·6	21st	33·0	48·4	3rd	54·6	14th	41·6
February	50·2	24th	57·1	9th	40·2	51·8	25th	60·9	16th	46·8
March	54·5	17th	61·1	2nd	45·7	57·9	27th	61·6	13th	52·2
April	63·4	14th	69·6	7th	54·3	68·0	14th	76·5	7th	60·4
May	69·0	28th	71·6	9th	66·3	70·6	5th	76·7	10th	65·3
June	75·2	21st	76·9	2nd	71·6	75·1	22nd & 23rd	77·8	1st	70·7
July	76·7	21st	80·0	1st	74·4	75·7	21st	79·1	2nd	72·6
August	76·4	2nd	79·4	20th	74·1	76·0	10th	78·5	21st	73·7
September	74·3	7th	78·3	1st	70·9	74·3	7th	77·4	27th	71·1
October	71·0	2nd	76·2	25th	64·2	71·4	2nd	76·3	21st	67·0
November	56·7	1st	67·4	30th	49·0	61·1	3rd	70·1	30th	54·4
December	46·2	30th	53·6	23rd	40·1	52·5	26th	58·1	21st	47·8

Months.	BENARES.					ROORKEE.				
	Mean.	Maximum.		Minimum.		Mean.	Maximum.		Minimum.	
		Day.	⊖	Day.	⊖		Day.	⊖	Day.	⊖
January	37·7	2nd	51·2	7th	28·4	34·7	28th	47·0	15th	25·0
February	44·4	23rd	54·0	13th	35·0	39·5	9th & 10th	49·0	14th	31·4
March	50·9	16th	59·0	12th	43·2	46·7	31st	61·4	11th	32·0
April	63·7	30th	74·0	1st	57·0	60·0	29th	73·0	4th—6th	51·0
May	73·2	30th	83·0	18th	60·0	69·3	30th	81·0	3rd	59·6
June	74·1	6th	78·0	29th	68·0	74·9	2nd	80·3	9th & 10th	71·6
July	73·5	22nd	76·2	29th	70·4	75·2	22nd	80·0	8th	70·0
August	72·8	14th	76·2	25th	70·0	74·6	3rd	78·0	22nd	72·4
September	71·0	16th	73·2	30th	65·8	69·8	4th	75·0	30th	60·0
October	60·0	5th	72·2	31st	50·6	53·1	6th & 7th	59·4	31st	43·6
November	44·2	2nd	58·4	21st—23rd	37·0	37·9	4th	48·0	21st	32·2
December	37·7	10th	47·2	17th	33·4	32·9	7th	45·6	15th	24·4

The temperature of solar radiation was below the average in the first two months of the year at the places referred to in Table XV, with the exceptions of Cuttack, Patna, and Lucknow. It has been seen that in these months there was a like deficiency of mean temperature in the shade, Cuttack and Patna being exceptions in both cases. In March, however, while the solar heat appears to have exceeded the average at Dacca, Berhampore, Patna, and Lucknow, the temperature of the air at these places was less than usual. At other places in the table, including Cuttack, the differentia of the two elements had like signs in this month. The excessive temperature of the air in April and May was in most cases coincident with an excess of solar heat. At Hazareebagh and Darjeeling, however, while the former element was in excess, the latter was deficient, and exactly the opposite was the case at Goalpara. In June the temperature of solar radiation was above the average in Bengal and Assam, but below it in the North-Western Provinces and Behar, and at Darjeeling, Hazareebagh, Cuttack, and Port Blair. In July, Cuttack, Hazareebagh, Patna, and Lucknow were added to the list of places at which the solar heat was in excess, while it fell below the average at Goalpara. In this month, but not in June, the excess of solar heat in Bengal was generally coincident with an excess in the mean temperature of the air. In August the temperature of solar radiation fell below average at Cuttack, Calcutta, and Lucknow, while it became greater than usual at Monghyr and Roorkee, where it had been below average in June and July. For the remaining months of the year, with the exceptions of local peculiarities to be noticed below, the variations of solar heat presented considerable irregularities, except in December, when this agent was generally below average intensity in Bengal.

On the mean results of the whole year, the temperature of solar radiation appears to have been generally above the average, the most noteworthy exceptions being Port Blair (—3·2°), Hazareebagh (—3·5°) and Darjeeling (—5·9°). At Silchar the excess amounted to 6·9° and at Patna to 3·5°. On the other hand, except at Port Blair and Patna, where there was a very slight excess, the mean temperature of the year in the shade was below average at all the places given in Table XV.

It will be gathered from the above that the irregularities of the temperature of solar radiation as compared with such averages as are yet available, can only be said, on the whole, to have been generally coincident with like irregularities of the temperature of the air in the first two or three months of the year, in July and in December. The records of radiation temperature are, however, as yet insufficient for a satisfactory comparison.

Amongst the local anomalies of radiation as shown in Table XV the following are worthy of notice:—It will be seen that from the commencement of the year up to September, and again in October, the temperature of solar radiation at Port Blair was below average. Such was also the case during the whole year at Darjeeling, and for every month in the year except July and August at Hazareebagh. On the other hand the solar heat was in excess at Patna in every month of the year except June, and, omitting January, February, and December, such was also the case at Dacca. At Silchar from June up to the end of the year the temperature of solar radiation appears to have been very abnormally high compared with its intensity at other places.

VAPOUR TENSION AND RELATIVE HUMIDITY.

Table XVII gives the monthly and annual means of vapour tension, obtained from the observations of the wet and dry bulb thermometers by the use of Guoyt's Psychrometrical Tables, which are computed by August's formula with Regnault's constants. The mean of the four periods of observation is taken as the diurnal mean in all cases in which six-hourly data have been furnished. A comparison between the means thus obtained, and those derived from hourly observations (at Calcutta), given in Table XIV of the report for 1872, showed that there is no appreciable difference between these values.

Table XVIII shows the average values of the monthly and annual vapour tension for eleven stations, deduced from the registers of the years 1868-74 by the same method; and Table XIX the differences between these and the corresponding means of the two previous tables, for all those stations that have furnished six-hourly observations.

Tables XX and XXI give the data of relative humidity for the year—the first for those stations that furnish original registers to the Meteorological Department of Bengal, the second for stations in Central India, the North-Western Provinces, and Ceylon,—the data being taken from the abstracts received from the local meteorological officers. The average values of the humidity for stations selected from both the above tables are given in Table XXII, which is divided into two parts, the one comprising the stations at which the full series of four sets of daily observations have been recorded, the other the more numerous stations at which the humidity has been observed only in the day time.

Lastly, Table XXIII shows the differentia of 1874 as compared with the several averages of the previous table, and, like the latter, is divided into two sections.

TABLE XVII.—MEAN ELASTIC FORCE OF VAPOUR IN 1874.

	PORT BLAIR.		NANCOWRY.		MADRAS.		VIZAGAPATAM.				
	10h	16h.	10h.	16h.	10h.	16h.	Mean.	4h.	10h.	16h.	22h.
January	·776	·773	·864	·815	·610	·602	·593	·559	·616	·600	·603
February	·834	·839	·782	·745	·677	·680	·654	·645	·644	·647	·680
March	·846	·897	·794	·761	·712	·761	·755	·748	·753	·750	·771
April	·931	·956	·755	·720	·770	·819	·827	·825	·794	·844	·846
May	1·000	·972	·821	·741	·778	·812	·909	·901	·915	·910	·912
June	·967	·955	·817	·788	·768	·771	·865	·866	·859	·859	·878
July	·936	·949	·846	·808	·742	·761	·875	·872	·865	·874	·890
August	·932	·923	·829	·795	·731	·772	·864	·854	·850	·857	·894
September	947	·953	·840	·807	·811	·844	·909	·907	·909	·904	·917
October	·913	·907	·846	·795	·838	·830	·860	·848	·862	·856	·874
November	·896	·882	·842	·810	·767	·756	·650	·645	·630	·658	·667
December	·826	·820	·809	·785	·681	·653	·509	·482	·505	·519	·531

	AKYAB.					FALSE POINT.				
	Mean.	4h.	10h.	16h.	22h.	Mean.	4h.	10h.	16h.	22h.
January	·486	·447	·514	·484	·499	·652	·571	·656	·705	·677
February	·592	·547	·594	·606	·623	·793	·732	·812	·841	·788
March	·647	·613	·624	·672	·679	·862	·807	·856	·907	·878
April	·840	·835	·843	·837	·845	·999	·963	1·012	1·026	·995
May	·962	·944	·949	·983	·973	1·024	·977	1·034	1·062	1·022
June	·943	·917	·962	·951	·942	·972	·936	1·003	1·014	·937
July	·956	·944	·981	·957	·944	1·021	·978	1·045	1·054	1·008
August	·948	·923	·961	·960	·947	·976	·950	·982	1·003	·971
September	·949	·925	·963	·959	·948	·987	·967	·999	·994	·988
October	·926	·907	·951	·930	·915	·887	·856	·899	·912	·882
November	·818	·798	·839	·816	·821	·656	·642	·672	·646	·665
December	·593	·567	·606	·600	·599	·478	·454	·476	·478	·505

TABLE XVII.—MEAN ELASTIC FORCE OF VAPOUR IN 1874.—(*Continued.*)

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·511	·501	·523	·470	·551	·518	·496	·515	·533	·530
February	·604	·612	·639	·511	·654	·663	·652	·683	·666	·653
March	·658	·707	·666	·523	·737	·753	·758	·745	·729	·781
April	·790	·841	·781	·712	·828	·937	·912	·947	·967	·922
May	·851	·893	·838	·771	·904	1·011	·987	1·023	1·026	1·007
June	·911	·912	·920	·897	·915	·985	·978	·986	·989	·987
July	·924	·916	·928	·927	·925	·983	·971	·995	·988	·980
August	·909	·885	·918	·917	·918	·966	·954	·972	·975	·965
September	·923	·908	·934	·930	·921	·961	·955	·976	·959	·953
October	·853	·837	·863	·846	·868	·883	·869	·895	·877	·891
November	·609	·587	·599	·604	·645	·645	·642	·646	·634	·658
December	·439	·423	·430	·422	·483	·448	·445	·447	·424	·477

	CHITTAGONG.					CALCUTTA.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·426	·390	·426	·430	·459	·455	·436	·467	·437	·481
February	·558	·521	·571	·558	·581	·588	·595	·576	·568	·613
March	·642	·595	·656	·637	·681	·627	·674	·636	·519	·678
April	·811	·806	·801	·819	·818	·878	·874	·908	·852	·879
May	·902	·863	·892	·930	·922	·944	·934	·976	·923	·942
June	·902	·866	·916	·929	·897	·968	·957	·973	·972	·971
July	·909	·887	·916	·918	·916	·979	·969	·990	·971	·986
August	·906	·879	·906	·935	·905	·979	·962	·996	·979	·980
September	·914	·901	·915	·921	·921	·971	·964	·972	·972	·975
October	·869	·851	·879	·883	·865	·894	·892	·902	·868	·916
November	·696	·684	·723	·697	·682	·639	·636	·627	·616	·679
December	·494	·465	·521	·498	·496	·430	·420	·430	·403	·467

TABLE XVII.—MEAN ELASTIC FORCE OF VAPOUR IN 1874.—(*Continued.*)

	BURDWAN.		JESSORE.		DACCA.					SILCHAR.	
	10*h*.	16*h*.	10*h*.	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	10 *h*.	16*h*.
January	·423	·445	·449	·398	·409	·383	·441	·405	·408	·450	·443
February	·530	·489	·544	·512	·541	·554	·559	·504	·549	·541	·523
March	·538	·481	·589	·437	·597	·611	·627	·503	·646	·576	·572
April	·829	·743	·876	·785	·844	·826	·854	·855	·841	.418	·779
May	·898	·777	·958	·858	·915	·900	·927	·935	·897	·831	·848
June	·974	·947	·996	·959	·965	·950	·978	·957	·975	·938	·940
July	1·009	·987	1·006	·987	·981	·972	·989	·980	·982	·949	·952
August	1·012	1·005	·999	·987	·975	·970	·981	·966	·985	·953	·934
September	1·004	·984	·983	·944	·966	·964	·977	·950	·972	·932	·926
October	·913	·934	·900	·884	·897	·885	·914	·882	·907	·911	·912
November	·624	·646	·634	·636	·654	·644	·672	·637	·665	·726	·722
December	·408	·410	·441	·424	·456	·428	·495	·446	·457	·496	·474

	HAZAREEBAGH.		BERHAMPORE.		GYA.		PATNA.		MONGHYR.	
	10*h*.	16*h*.	10*h*.	16*h*.	10*h*.	16*h*.	10*h*.	16*h*.	10*h*.	16*h*.
January	·256	·234	·408	·395	·276	·260	·327	·355	·316	·309
February	·275	·261	·537	·507	·312	·297	·347	·331	·386	·357
March	·234	·206	·496	·446	·546	·573	·339	·275	·377	·321
April	·236	·190	1·017	1·013	·904	·958	·413	·285	·502	·387
May	·359	·298	1·124	1·251	·989	1·003	·557	·310	·650	·544
June	·783	·781	1·026	·994	·995	·960	·931	·857	·962	·898
July	·820	·807	1·006	·992	·956	·952	·993	·980	·993	·975
August	·817	·823	·989	·977	·994	1·016	·998	·984	·978	·973
September	·793	·772	·997	·953	·966	·979	·951	·941	·968	·947
October	·627	·628	·895	·863	·864	·891	·748	·744	·806	·788
November	·356	·348	·571	·622	·487	·490	·513	·443	·532	·517
December	·227	·217	·421	·429	·319	·347	·350	·311	·368	·381

TABLE XVII.—MEAN ELASTIC FORCE OF VAPOUR IN 1874.—(*Concluded.*)

	PURNEAH.		DARJEELING.					SIBSAGAR.	
	10*h*.	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	10*h*.	16*h*.
January	.....	.....	·190	·168	·201	·195	·195	·408	·434
February	.....	.....	·198	·186	·187	·204	·216	·478	·475
March	.....	.....	·229	·216	·216	·229	·254	·530	·537
April	.....	.....	·355	·333	·349	·372	·366	·708	·717
May	.....	.....	·428	·394	·439	·450	·430	·755	·783
June	·980	·988	·515	·482	·532	·551	·512	·953	·971
July	1·028	1·052	·549	·503	·577	·578	·540	·974	·983
August	1·005	1·006	·551	·511	·574	·574	·545	·951	·962
September	·960	·999	·514	·459	·531	·539	·526	·919	·931
October	·786	·857	·410	·364	·417	·444	·414	·835	·826
November	·645	·649	·284	·273	·255	·308	·302	·607	·624
December	·439	·413	·206	·209	·185	·212	·218	·467	·460

	GOALPARA.		BENARES.					ROORKEE.				
	10*h*.	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	·386	·383	·294	·253	·300	·295	·329	·291	·267	·303	·298	·294
February	·430	·403	·324	·328	·312	·301	·354	·321	·314	·342	·293	·333
March	·487	·443	·358	·338	·302	·400	·391	·333	·322	·352	·293	·366
April	·718	·731	·406	·368	·416	·400	·439	·292	·319	·280	·230	·341
May	·822	·855	·442	·474	·424	·345	·524	·349	·386	·364	·259	·386
June	·900	·929	·907	·883	·904	·918	·923	·836	·829	·834	·813	·868
July	·936	·947	·971	·944	·990	·971	·979	·912	·885	·899	·927	·938
August	·951	·953	·971	·941	·984	·969	·990	·897	·886	·894	·894	·916
September	·918	·921	·925	·920	·937	·904	·939	·797	·778	·799	·792	·821
October	·837	·815	·691	·672	·692	·675	·725	·487	·472	·509	·439	·529
November	·637	·610	·430	·403	·424	·421	·474	·305	·286	·330	·280	·324
December	·471	·471	·332	·311	·326	·330	·360	·249	·235	·261	·233	·267

TABLE XVIII.—AVERAGE MONTHLY VALUES OF THE TENSION OF AQUEOUS VAPOUR FROM THE OBSERVATIONS OF THE YEARS 1868-74.

Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.
Vizagapatam	5	·605	·655	·740	·845	·918	·895	·866	·892	·896	·832	·671	·551	·780
Akyab	5—7	·550	·611	·727	·872	·953	·959	·940	·944	·950	·916	·785	·611	·818
False Point	7	·625	·722	·874	1·013	1·086	1·062	1·022	1·020	1·003	·915	·675	·569	·882
Cuttack	6—7	·509	·566	·668	·811	·898	·935	·948	·950	·945	·828	·593	·490	·762
Saugor Island	6—7	·553	·675	·834	·955	1·022	1·049	1·031	1·025	1·004	·894	·662	·526	·852
Chittagong	6—7	·482	·565	·714	·860	·933	·957	·937	·945	·939	·871	·679	·520	·783
Calcutta	7	·470	·551	·682	·856	·935	·996	1·004	1·005	·989	·865	628	·479	·788
Dacca	6—7	·464	·529	·683	·835	·944	1·011	1·008	1·025	1·005	·879	·639	·495	·793
Darjeeling	7	·204	·221	·249	·337	·424	·524	·544	·546	·507	·372	·267	·209	·367
Benares	5	·329	·366	·362	·434	·518	·827	·976	·963	·920	·637	·446	·353	·594
Roorkee	7	·288	·329	·347	·340	·430	·704	·896	·896	·815	·514	·329	·290	·545

TABLE XIX.—COMPARISON OF MONTHLY MEAN VAPOUR TENSIONS OF 1874 WITH THE AVERAGES OF TABLE XVIII.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam ...	—·012	—·001	+·015	—·018	—·009	—·030	+·009	—·028	+·013	+·028	—·021	—·042	—·008
Akyab	—·064	—·019	—·080	—·032	+·009	—·016	+·016	+·004	—·001	+·010	+·033	—·018	—·013
False Point ...	+·027	+·071	—·012	—·014	—·062	—·090	—·001	—·044	—·016	—·028	—·019	—·091	—·023
Cuttack	+·002	+·038	—·010	—·021	—·047	—·024	—·024	—·041	—·022	+·025	+·016	—·051	—·013
Saugor Island ...	—·035	—·012	—·081	—·018	—·011	—·064	—·048	—·059	—·043	—·011	—·017	—·078	—·040
Chittagong ...	—·056	—·007	—·072	—·049	—·031	—·055	—·028	—·039	—·025	—·002	+·017	—·025	—·031
Calcutta	—·015	+·037	—·055	+·022	+·009	—·028	—·025	—·026	—·018	+·029	+·011	—·049	—·009
Dacca	—·055	+·012	—·086	+·009	—·029	—·046	—·027	—·050	—·039	+·018	+·015	—·039	—·026
Darjeeling ...	—·014	—·023	—·020	+·018	+·004	—·009	+·005	+·005	+·007	+·038	+·017	—·003	+·002
Benares	—·035	—·042	—·004	—·028	—·076	+·080	—·005	+·008	+·005	+·054	—·016	—·021	—·007
Roorkee	+·003	—·008	—·014	—·048	—·081	+·132	+·016	+·001	—·018	—·027	—·024	—·041	—·009

TABLE XX.—MEAN HUMIDITY OF 1874.

Months.	Port Blair.			Nancowry.			Madras.			Vizagapatam.				
	Mean of 2 *obs.*	10*h.*	16*h.*	Mean of 2 *obs.*	10*h.*	16*h.*	Mean. of 2 *obs.*	10*h.*	16*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*
January	67	71	64	73	73	74	58	59	58	67	70	68	62	70
February	68	73	63	64	64	64	60	60	60	65	70	63	60	68
March	66	68	64	63	63	64	59	56	62	68	73	66	64	71
April	69	72	66	59	59	59	59	55	63	68	73	62	65	71
May	81	84	78	65	66	65	60	58	62	71	75	67	68	74
June	80	82	78	65	65	66	57	59	55	70	75	68	66	73
July	81	83	80	73	73	73	58	61	56	73	77	71	69	75
August	83	84	82	70	70	71	56	57	56	71	75	69	67	75
September	80	82	78	73	73	74	67	68	67	76	79	74	72	77
October	81	84	79	75	74	77	71	72	70	76	79	75	73	78
November	75	77	73	71	72	71	70	71	70	66	69	63	63	69
December	69	72	66	70	70	70	68	69	67	64	67	61	59	67
Year	75	78	73	69	69	69	62	62	62	69	73	67	66	72

	Akyab.					False Point.				
	Mean.	4*h.*	10*h.*	16*h.*	22*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*
January	73	92	65	51	86	87	95	83	82	90
February	74	91	63	56	87	88	94	85	84	88
March	71	86	57	60	80	85	91	80	81	88
April	76	91	65	66	83	87	91	84	83	91
May	79	90	72	72	83	83	85	82	81	85
June	87	92	84	82	89	81	81	81	80	82
July	88	92	85	84	91	85	86	86	83	86
August	90	93	90	86	92	88	91	87	87	89
September	87	95	84	80	90	84	87	83	80	86
October	86	94	81	77	91	82	85	81	79	83
November	85	94	79	74	92	78	86	76	67	82
December	80	95	72	62	91	73	88	66	59	78
Year	81	92	75	71	88	84	88	83	79	86

TABLE XX.—MEAN HUMIDITY OF 1874.—(*Continued.*)

	CUTTACK.					SAUGOR ISLAND.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	69	89	61	45	82	75	89	65	61	85
February	69	87	67	42	80	80	89	77	68	86
March	65	87	57	36	79	75	84	70	64	83
April	65	86	54	42	76	82	86	77	78	86
May	65	82	54	46	77	82	86	78	77	86
June	80	89	73	72	86	83	88	79	78	86
July	82	90	76	74	88	83	89	80	79	86
August	85	91	81	78	89	84	89	81	80	86
September	84	92	78	77	89	84	90	82	80	86
October	82	91	75	74	89	84	90	78	78	89
November	73	87	62	57	84	75	87	66	62	85
December	67	87	54	43	83	69	85	61	47	62
Year ...	74	88	66	57	84	79	88	74	71	84

	CHITTAGONG.					CALCUTTA.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	71	87	65	52	80	70	83	67	50	78
February	74	87	67	58	83	75	89	71	57	82
March	73	88	64	58	82	67	85	63	41	77
April	75	89	63	66	82	74	89	69	54	83
May	79	90	71	71	84	74	88	69	57	83
June	83	91	78	77	87	84	93	76	78	90
July	84	92	78	79	89	85	93	81	76	89
August	85	91	79	81	90	88	95	84	80	92
September	87	95	81	81	93	87	94	82	82	91
October	84	95	77	74	92	84	93	78	73	90
November	79	93	72	68	83	73	85	65	59	82
December	74	91	70	56	78	65	79	60	46	76
Year ...	79	91	72	68	85	77	89	72	63	84

TABLE XX.—MEAN HUMIDITY OF 1874.—(*Continued.*)

	BURDWAN.			JESSORE.			DACCA.					SILCHAR.		
	Mean of 2 *obs.*	10*h.*	16*h.*	Mean of 2 *obs.*	10*h.*	16*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*	Mean of 2 *obs.*	10*h.*	16*h.*
January ...	53	59	47	54	61	48	70	88	65	50	77	70	84	57
February ...	58	66	50	60	66	54	74	92	68	53	82	72	81	63
March ...	42	50	35	45	57	33	68	88	62	43	81	64	73	56
April ...	49	58	41	57	65	49	76	91	71	61	83	70	77	64
May ...	50	58	42	60	66	55	80	92	73	68	87	76	80	72
June ...	74	74	74	79	78	80	85	93	79	78	91	78	82	74
July ...	77	78	76	79	79	79	85	93	80	79	88	79	84	75
August ...	80	82	79	80	81	80	86	94	81	78	90	78	84	72
September ...	79	81	78	80	81	79	86	94	81	79	92	82	86	78
October ...	77	79	75	75	76	75	85	95	78	76	92	76	82	71
November ...	63	65	61	62	63	62	75	89	66	59	84	71	77	65
December ...	50	56	44	52	55	50	71	88	64	51	80	65	77	53
Year ...	63	67	59	65	69	62	78	91	72	65	86	74	81	67

	HAZAREEBAGH.			BERHAMPORE.			GYA.			PATNA.		
	Mean of 2 *obs.*	10*h.*	16*h.*	Mean of 2 *obs.*	10*h.*	16*h.*	Mean of 2 *obs.*	10*h.*	16*h.*	Mean of 2 *obs.*	10*h.*	16*h.*
January	37	42	32	54	63	45	36	43	30	51	55	48
February ...	36	38	34	61	69	53	37	41	33	44	49	39
March ...	23	26	20	40	47	33	43	45	42	27	34	21
April ...	14	16	12	63	73	54	49	51	47	22	29	16
May ...	19	22	17	69	77	62	44	46	43	24	34	15
June ...	75	75	76	80	82	78	77	76	79	71	73	70
July ...	75	76	74	77	80	74	74	73	75	78	81	75
August ...	80	80	80	76	79	74	81	81	81	79	81	77
September ...	76	76	76	80	84	77	76	77	76	78	80	76
October ...	66	67	65	75	79	71	76	76	76	66	68	64
November ...	44	47	41	60	62	58	52	55	50	52	60	45
December ...	32	36	29	55	61	50	43	45	42	47	55	40
Year ...	48	50	46	66	71	61	57	59	56	53	58	49

TABLE XX.—MEAN HUMIDITY OF 1874.—(*Concluded.*)

	MONGHYR.			PURNEAH.			DARJEELING.					SIBSAGAR.		
	Mean of 2 *obs.*	10*h.*	16*h.*	Mean of 2 *obs.*	10*h.*	16*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*	Mean of 2 *obs.*	10*h.*	16*h.*
January ...	47	54	40	...	...	...	78	86	66	70	89	82	90	75
February ...	49	56	42	...	...	...	74	83	61	64	87	77	85	69
March ...	32	40	25	...	...	...	70	79	56	59	85	75	81	69
April ...	30	38	23	...	...	...	77	86	66	68	87	81	87	75
May ...	37	44	30	...	...	...	81	90	72	72	90	86	91	82
June ...	74	79	69	79	82	77	94	99	89	89	99	82	86	78
July ...	77	81	74	81	82	81	94	99	90	88	99	83	87	80
August ...	78	81	75	81	82	81	94	99	91	89	98	82	88	77
September ...	80	82	78	86	86	86	93	99	90	87	98	82	86	78
October ...	69	72	66	69	68	70	84	90	75	79	91	78	85	72
November ...	58	65	51	59	63	56	80	93	62	70	94	73	79	68
December ...	54	59	49	62	71	54	74	90	57	63	87	78	93	63
Year ...	57	63	52	...	...	...	83	91	74	75	92	80	86	74

	GOALPARA.			BENARES.					ROORKEE.				
	Mean of 2 *obs.*	10*h.*	16*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*	Mean.	4*h.*	10*h.*	16*h.*	22*h.*
January	64	76	53	63	85	49	38	79	70	86	69	49	77
February	59	69	50	56	78	44	33	69	65	84	61	41	73
March	53	62	44	43	62	28	28	54	55	74	48	32	66
April	69	76	63	32	44	25	19	40	29	46	20	14	37
May	81	87	75	29	41	22	15	37	27	42	22	13	32
June	82	85	80	78	86	69	72	83	71	83	66	57	77
July	85	90	81	83	92	78	75	89	83	91	80	72	88
August	81	83	80	87	94	83	79	93	80	90	77	68	86
September	84	87	82	83	95	76	72	91	77	90	70	62	84
October	77	82	73	75	93	64	56	88	59	83	45	32	74
November	70	78	62	69	92	52	43	90	56	81	44	29	70
December	72	84	60	66	88	51	41	85	57	79	49	32	68
Year ...	73	80	67	64	79	53	48	75	61	77	54	42	69

TABLE XXI.—MEAN MONTHLY HUMIDITY OF ADDITIONAL STATIONS IN CEYLON AND THE NORTH-WESTERN AND CENTRAL PROVINCES IN 1874 FROM TWO OBSERVATIONS (AT 10*h*. AND 16*h*.) DAILY.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Goruckpore	46	48	34	43	44	73	72	82	77	62	55	57	58
Jhansi	40	34	28	20	20	59	75	80	65	38	30	35	44
Allahabad	49	42	29	?	?	?	?	?	?	?	51	52	?
Lucknow	46	45	32	24	26	72	78	80	72	50	41	43	51
Agra	49	42	36	22	24	61	78	81	70	39	36	40	48
Ajmere	32	32	34	26	30	51	65	70	?	33	32	37	?
Bareilly	49	44	34	18	19	64	78	79	72	48	41	44	49
Meerut	53	49	44	31	32	61	77	76	68	50	52	53	54
Saugor	30	20	11	12	22	65	79	84	65	27	18	21	38
Jubbulpore	52	42	28	20	22	64	73	81	66	45	47	46	49
Hoshungabad ...	33	25	17	14	21	61	77	84	67	42	32	33	42
Chanda	48	39	32	35	40	60	75	73	74	62	46	46	52
Raipore	42	47	59	45	45	70	75	82	79	67	47	38	58
Akola	37	27	20	20	36	62	74	72	69	52	50	45	47
Omrnoti	33	34	19	17	27	59	73	67	65	41	37	32	42
Seoni	33	25	14	14	23	63	73	76	67	40	28	32	41
Nagpore	34	29	17	14	22	58	72	74	70	44	32	34	42
Jaffna	73	71	71	73	79	81	80	80	84	84	85	87	79
Trincomalee... ...	75	73	78	73	70	67	69	68	72	75	78	85	74
Colombo	77	83	78	72	83	87	89	84	84	84	84	83	82
Galle	88	85	83	81	89	90	92	87	98	91	90	89	89

TABLE XXII.—AVERAGE MONTHLY HUMIDITIES OF SEVERAL STATIONS DEDUCED FROM THE REGISTERS OF 1867—74.

A.—Mean of four observations daily.

STATIONS.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	5	65	65	66	68	68	69	73	73	75	74	66	64	69
Akyab	5—7	76	75	74	76	80	87	89	88	87	85	82	78	81
False Point	7	81	81	83	86	85	84	85	85	83	80	73	74	82
Cuttack	7	68	66	65	66	67	76	82	83	83	78	70	68	73
Saugor Island	6—7	75	77	78	80	81	84	86	87	86	83	75	74	80
Chittagong	6—7	71	71	74	79	81	86	87	88	87	83	78	74	80
Calcutta	7	68	68	67	73	75	83	87	88	87	80	71	68	76
Dacca	6—7	71	68	70	77	83	88	88	89	88	82	73	71	79
Darjeeling	7	76	76	69	75	81	91	92	92	91	78	73	72	80
Benares	5—6	65	59	44	38	38	62	83	83	82	69	66	68	63
Roorkee	7	65	63	52	36	36	55	79	79	76	61	57	63	60

B.—Mean of two observations (10h and 16h) daily.

Galle	5	85	83	80	82	86	89	89	88	91	88	87	87	86
Colombo	4—5	80	81	80	81	83	86	85	84	85	83	83	82	83
Trincomalee	4—5	76	75	74	72	68	66	65	68	69	74	84	82	73
Jaffna	4	74	71	71	75	80	82	81	81	84	81	82	82	79
Port Blair	7	69	70	68	68	79	81	82	81	82	80	73	70	75
Madras	7	62	61	59	60	56	53	54	59	62	69	72	67	61
Silchar	4—6	68	64	62	67	73	80	81	82	82	78	71	69	73
Jessore	7	52	48	45	57	64	78	80	80	79	70	60	54	64
Hazareebagh	7—8	45	36	30	27	32	62	80	81	77	58	44	41	51
Berhampore	6—7	55	48	43	52	60	75	79	79	79	66	57	55	62
Gya	3—5	41	34	26	32	40	59	74	77	73	56	42	43	50
Patna	6—7	54	46	31	32	38	58	73	76	75	56	47	51	53
Monghyr	7	53	48	37	38	43	64	76	79	78	61	52	52	57
Goalpara	6	64	57	50	64	75	84	83	81	83	75	69	68	71
Goruckpore	6—7	57	49	43	42	49	67	79	80	78	58	50	57	59
Allahabad	3—6	54	45	35	33	34	51	76	75	76	54	47	53	53
Jhansi	7	47	38	32	23	25	48	71	71	67	41	33	41	45
Lucknow	7	56	48	34	29	35	56	76	77	74	52	44	52	53
Agra	7	53	46	39	27	28	45	64	75	70	44	39	48	50
Ajmere	6—7	43	39	35	30	33	45	65	67	58	35	34	41	44
Bareilly	6—7	59	50	42	31	34	54	76	75	74	56	49	55	55
Meerut	6	53	46	39	28	36	48	72	72	67	47	44	52	50
Saugor	4—5	35	24	14	15	20	49	78	79	69	31	25	30	39
Jubbulpore	6	43	36	29	23	22	48	66	69	66	51	42	44	45
Hoshungabad	5	42	28	21	17	23	50	77	82	72	47	39	42	45
Chanda	4—5	51	42	36	38	40	57	75	71	75	59	54	52	54
Raipore	6	41	34	35	29	29	54	78	75	75	56	42	43	49
Seoni	5—6	39	29	24	20	21	53	78	78	74	48	38	41	45
Nagpore	6	40	32	25	21	23	51	72	70	71	47	43	44	45

TABLE XXIII.—COMPARISON OF THE MEAN HUMIDITIES OF EACH MONTH OF 1874 WITH THE AVERAGES OF TABLE XXII.

From Table A.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	+2	0	+2	0	+3	+1	0	−2	+1	+2	0	0	0
Akyab	−3	−1	−3	0	−1	0	−1	+2	0	+1	+3	+2	0
False Point	+6	+7	+2	+1	−2	−3	0	+3	+1	+2	+5	−1	+2
Cuttack	+1	+3	0	−1	−2	+4	0	+2	+1	+4	+3	−1	+1
Saugor Island	0	+3	−3	+2	+1	−1	−3	−3	−2	+1	0	−5	−1
Chittagong	0	+3	−1	−4	−2	−3	−3	−3	0	+1	+1	0	−1
Calcutta	+2	+7	0	+1	−1	+1	−2	0	0	+4	+2	−3	+1
Dacca	−1	+6	−2	−1	−3	−3	−3	−3	−2	+3	+2	0	−1
Darjeeling	+2	−2	+1	+2	0	+3	+2	+2	+2	+6	+7	+2	+3
Benares	−2	−3	−1	−6	−9	+16	0	+4	+1	+6	+3	−2	+1
Roorkee	+5	+2	+3	−7	−9	+16	+4	+1	+1	−2	−1	−6	+1

From Table B.

Galle	+3	+2	+3	−1	+3	+1	+3	−1	+7	+3	+3	+2	+3
Colombo	−3	+2	−2	−9	0	+1	+4	0	−1	+1	+1	+1	−1
Trincomallee	−1	−2	+4	+1	+2	+1	+4	0	+3	+1	−6	+3	+1
Jaffna	−1	0	0	−2	−1	−1	−1	−1	0	+3	+3	+5	0
Port Blair	−2	−2	−2	+1	+2	−1	−1	+2	−2	+1	+2	−1	0
Madras	−4	−1	0	−1	+4	+4	+4	−3	+5	+2	−2	+1	+1
Goalpara	0	+2	+3	+5	+6	−2	+2	0	+1	+2	+1	+4	+2
Silchar	+2	+8	+2	+3	+3	−2	−2	−4	0	−2	0	−4	+1
Jessore	+2	+12	0	0	−4	+1	−1	0	+1	+5	+2	−2	+1
Hazareebagh	−8	0	−7	−13	−13	+13	−5	−1	−1	+8	0	−9	−3
Berhampore	−1	+13	−3	+11	+9	+5	−2	−3	+1	+9	+3	0	+4
Gya	−5	+3	+17	+17	+4	+18	0	+4	+3	+20	+10	0	+7
Patna	−3	−2	−4	−10	−14	+13	+5	+3	+3	+10	+5	−4	0
Monghyr	−6	+1	−5	−8	−6	+10	+1	−1	+2	+8	+6	+2	0
Goruckpore	−11	−1	−9	+1	−5	+6	−7	+2	−1	+4	+5	0	−1
Allahabad	−5	−3	−6	?	?	?	?	?	?	?	+4	−1	?
Jhansi	−7	−4	−4	−3	−5	+11	+4	+9	−2	−3	−3	−6	−1
Lucknow	−10	−3	−2	−5	−9	+16	+2	+3	−2	−2	−3	−9	−2
Agra	−4	−4	−3	−5	−4	+16	−6	+6	0	−5	−3	−8	−2
Ajmere	−11	−7	−1	−4	−3	+6	0	+3	?	−2	−2	−4	?
Bareilly	−10	−6	−8	−13	−15	+10	+2	+4	−2	−8	−8	−11	−6
Meerut	0	+3	+5	+3	−4	+13	+5	+4	+1	+3	+8	+1	+4
Saugor	−5	−4	−3	−3	+2	+16	+1	+5	−4	−4	−7	−9	−1
Jubbulpore	+9	+6	−1	−3	0	+16	+7	+12	0	−6	+5	+2	+4
Hoshungabad	−9	−3	−4	−3	−2	+11	0	+2	−5	−5	−7	−9	−3
Chanda	−3	−3	−4	−3	0	+3	0	+2	−1	+3	−8	−6	−2
Raipore	+1	+13	+24	+16	+16	+16	−3	+7	+4	+11	+5	−4	+9
Seoni	−6	−4	−10	−6	+2	+10	−5	−2	−7	−8	−10	−9	−4
Nagpore	−6	−3	−8	−7	−1	+7	0	+4	−1	−3	−11	−10	−3

In the first month of the year the air was generally drier than usual in the North-Western Provinces, Behar, Chutia Nagpore, and the Central Provinces. At Jubbulpore, however, there was an excess of humidity, and this was likewise the case at Roorkee, where there was also a slight excess of vapour tension. In Bengal, although the vapour tension seems to have been deficient, the humidity was probably slightly above the average, but there was a marked excess in Orissa as well as at Darjeeling and in Assam. In Orissa also the vapour tension was above the average.

A very considerable change took place in Bengal and Assam in February, when the humidity became abnormally high. This excess of moisture, however, disappeared in the following month in Bengal, but continued in Assam until June. The abnormally low relative humidity in the North-Western Provinces, Behar, Chutia Nagpore, and the Central Provinces was generally maintained up to the end of May. Gya and Raipore, at which places the moisture was excessive in March, April, and May, were noteworthy exceptions. The tables of average vapour tension only include two stations, Roorkee and Benares, in the North-Western Provinces. At these places the absolute humidity was deficient in the months above-mentioned, but especially so in May. In Bengal for these months the tables show considerable irregularities. In March, however, as far as can be gathered from the table of average vapour tension, the absolute humidity was deficient, and especially so along the northern and north-eastern shores of the Bay. Except at Berhampore, where the relative humidity appears to have been excessive in April and May, and in Assam, where it continued abnormally high from the commencement of the year up to June, May was an unusually dry month. At Patna the deficiency of humidity amounted to 10 per cent. of saturation in April and 14 per cent. in May; at Bareilly to 13 and 15 per cent. respectively; and at Hazareebagh to 13 per cent. in each month.

The early commencement and copiousness of the rains in June throughout the North-Western Provinces, Behar, Chutia Nagpore, and the Central Provinces brought the relative humidity of the month, in these regions, abnormally high, and the excess of vapour tension at Benares and Roorkee (the only places in the regions referred to for which a comparison of this element with normal values can be made) was equally strongly marked. In Lower Bengal, however, although the air was not drier than usual, there appears to have been a considerable deficiency in the quantity of vapour near the surface, especially in the regions round the northern shores of the Bay. The relative humidity in this month was below average in Assam, while Darjeeling was damper than usual and continued so for the remainder of the year.

The increase of humidity in July was much less rapid than usual over the whole region considered, excepting Ceylon and Madras. In Chutia Nagpore and southern Bengal the relative humidity was now decidedly below the average; but it still continued high in parts of the North-Western and Central Provinces. The deficieney in vapour tension, and hence in the quantity of surface vapour, in southern Bengal was, however, not so great as in the preceding month. At Darjeeling it was above the average and continued so throughout the remainder of the year. On the other hand the excessive vapour tension of the preceding month at Roorkee in a great measure disappeared, and a slight deficiency of this element was shown at Benares.

In August the excess of relative humidity above the average was again strongly marked in the Central and North-Western Provinces, and also in Orissa. There was a slight deficiency in Ceylon and Madras, and Bengal, Chutia Nagpore, and Assam still continued drier than usual. In the region round the head of the Bay the deficiency of vapour tension in this month was almost as great as in June.

In September the most marked irregularity was a rapid decrease of moisture in the Central and North-Western Provinces, where generally it continued to fall still further below average throughout the remainder of the year. The excess of moisture in Behar, and the deficiency of this element, as well as vapour tension, in Bengal still continued.

Excluding the North-Western Provinces, with the exceptions of Benares and Goruckpore, and the Central Provinces with the exception of Chanda and Raipore, the humidity of October was generally excessive over the remainder of the regions to which the tables refer. The greatest deviations were at Gya (20 per cent. of saturation above average); Patna (10 per cent.), and Raipore (11 per cent.). The vapour tension in this month, for the first time since the commencement of the south-west monsoon, rose above the average at Dacca, Calcutta, and Cuttack, as it did also in the following month at Chittagong. At Saugor Island, however, it was below average from the commencement of the year up to its close. This was also the case at False Point, except in the first two months of the year, and at Chittagong during every month of the year except November. The excessive humidity of October continued over the same regions with slight diminution in November. But December was unusually dry, except in Ceylon, Madras, the Assam Valley, and in Darjeeling. The vapour tension was below the average in this month at all places referred to in table XIX.

On the average for the year, although the quantity of vapour near the surface was deficient at all places referred to in table XIX, except Darjeeling, the relative humidity was slightly higher than usual, except at Saugor Island, Chittagong, and Dacca. At these places, however, there was only a deficiency of 1 per cent. of saturation. The fluctuations of relative humidity, as compared with normal values, throughout the year were, however, not less decidedly marked than those of pressure and temperature, which have been already noticed.

SERENITY.

Table XXIV gives the mean proportions of unclouded sky as estimated at the regular hours of observation. A clear and unclouded sky is designated by 10, and an overcast sky by 0. This notation, which is the same as that until recently followed by most Continental meteorologists, is hardly so convenient as the complementary notation, designating the proportion of cloud-covered sky by figures from 0 to 10, which has lately been recommended for general adoption by the Meteorological Congress at Vienna. However, I have not thought it advisable in this report, which will probably be the last of the series in the present form, to change the notation which has hitherto been adopted. The one notation is of course readily convertible into the other by taking the difference between the given numbers and 10. In some cases the means are derived from four daily observations at 4*h*., 10*h*., 16*h*., and 22*h*; in other cases from two observations at 10*h*. and 16*h*. daily.

Table XXV gives the mean monthly serenity for some additional stations in Ceylon and the North-Western and Central Provinces, derived from the two observations in the daytime only. In Table XXVI is given the average serenity of several stations arranged in two series, one of which is based on four observations daily at equidistant periods of six hours, and the other on the observations made daily at 10*h*. and 16*h*. A similar division is adopted in Table XXVII, which shows the differences of the means of 1874 and the averages of the preceding table.

TABLE XXIV.—MEAN SERENITY OF 1874.

	PORT BLAIR.			NANCOWRY.			VIZAGAPATAM.				
	Mean.	10*h*.	16*h*.	Mean.	10*h*	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	8·47	8·74	8·19	5·94	6·16	5·71	8·21	8·23	7·34	8·63	8·66
February	8·93	9·00	8·86	5·81	6·43	5·21	8·54	8·64	8·02	8·96	8·52
March	8·38	9·00	7·77	4·97	5·61	4·32	8·31	8·39	8·03	8·40	8·41
April	6·73	7·63	5·83	5·07	6·03	4·10	8·30	8·63	8·42	8·05	8·10
May	4·48	4·87	4·10	1·23	1·00	1·45	6·24	5·98	6·40	6·39	6·18
June	5·02	5·37	4·67	1·10	1·97	0·23	4·15	3·97	4·40	3·65	4·62
July	4·61	5·19	4·03	1·29	1·35	1·23	4·51	4·79	3.79	4·23	5·21
August	4·13	4·32	3·94	1·24	1·32	1·16	4·13	4·29	4·05	3·84	4·42
September	5·00	5·33	4·67	0·97	1·13	0·80	5·18	4·73	5·10	5·08	5·93
October	5·71	5·68	5·74	1·65	1·90	1·39	4·82	5·00	5·13	3·89	5·26
November	6·43	6·33	6·53	3·38	3·67	3·10	7·71	8·12	7·48	7·10	8·13
December	7·20	7·16	7·23	4·13	4·23	4·03	7·40	7·40	7·18	6·73	8·27
Year ...	6·26	6·55	5·96	3·06	3·40	2·73	6·46	6·51	6·28	6·25	6·81

	AKYAB.					CUTTACK.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	9·10	9·45	8·90	8·58	9·48	8·47	9·03	8·35	7·52	8·97
February	9·23	9·39	9·07	8·89	9·57	7·47	7·64	6·89	7·36	8·00
March	8·12	8·52	7·90	7·52	8·55	8·31	7·81	8·74	7·97	8·74
April	7·94	7·50	6·57	8·83	8·87	7·75	6·57	9·10	6·97	8·37
May	4·93	5·00	3·74	4·81	6.16	6·42	6·23	6·65	5·68	7·13
June	2·35	2·13	2·63	2·37	2·33	3·71	4·50	3·03	2·67	4·63
July	2·69	2·00	2·81	2·16	3·77	4·73	6·23	3·19	2·77	6·65
August	2·09	2·06	1·16	2·03	3·10	3·73	4·55	3·13	2·26	4·97
September	2·99	2·30	2·73	3·10	3·83	4·91	6·03	3·43	3·47	6·70
October	4·60	4·23	4·52	4·32	5·32	5·65	6·74	4·29	4·48	7·10
November	6·49	7·03	5·97	5·23	7·73	7·65	8·23	7·43	6·93	8·00
December	8·09	8·29	6·67	8·00	9·39	9·13	9·26	9·16	8·65	9·45
Year ...	5·72	5·66	5·24	5·49	6·51	6·49	6·90	6·12	5·56	7·39

TABLE XXIV.—MEAN SERENITY OF 1874.—(*Continued.*)

	SAUGOR ISLAND.					CHITTAGONG.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	7·57	7·81	7·32	6·84	8·32	9·36	9·77	9·52	8·87	9·26
February	6·46	5·86	5·50	7·04	7·46	7·65	7·88	6·57	7·71	8·43
March	6·54	6·81	5·55	6·13	7·68	7·90	8·23	7·52	7·55	8·29
April	4·10	5·10	2·53	3·80	4·97	7·26	7·37	5·63	8·27	7·77
May	3·72	3·29	2·68	3·90	5·00	5·87	5·55	3·77	7·07	7·13
June	2·45	2·50	2·07	1·37	3·87	3·52	3·17	3·40	3·20	4·33
July	2·97	3·26	2·07	1·74	4·81	4·09	4·52	4·16	2·61	5·07
August	2·98	2·97	1·90	1·97	5·06	4·84	6·39	3·23	2·97	6·77
September	2·75	3·17	2·17	1·53	4·13	3·72	3·67	3·60	2·93	4·67
October	4·81	4·97	4·13	3·96	6·26	6·14	6·86	4·94	5·81	6·97
November	5·84	6·57	5·10	4·77	6·93	7·13	7·30	7·07	6·43	7·73
December	8·27	8·77	7·74	7·32	9·23	9·22	9·53	8·94	8·71	9·68
Year ...	4·87	5·09	4·06	4·19	6·14	6·39	6·69	5·70	6·01	7·17

	BURDWAN.			JESSORE.			DACCA.				
	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	8·63	8·52	8·74	8·18	7·87	8·48	8·08	8·44	7·58	7·87	8·48
February	7·25	6·93	7·57	6·95	6·54	7·36	5·87	4·96	5·21	6·50	6·82
March	7·89	8·06	7·71	7·85	7·84	7·87	6·93	5·43	6·72	7·23	8·33
April	8·47	8·60	8·33	7·35	7·47	7·23	6·12	6·21	4·63	7·57	6·07
May	7·68	7·94	7·42	7·34	7·55	7·13	4·54	3·46	4·58	5·59	4·53
June	3·53	4·10	2·97	3·30	3·87	2·73	2·21	1·42	1·73	1·83	3·93
July	3·07	3·18	2·97	2·50	2·61	2·39	1·98	1·81	1·06	2·06	3·00
August	2·66	2·47	2·85	3·10	2·74	3·45	1·80	1·74	1·39	2·29	1·77
September	3·21	3·58	2·85	2·50	2·47	2·53	2·82	3·71	2·07	2·03	3·47
October	4·53	4·32	4·73	4·94	5·10	4·77	5·01	5·84	4·27	3·65	6·26
November	6·59	7·38	5·79	6·45	6·63	6·27	7·44	7·83	7·23	6·59	8·10
December	8·73	8·84	8·63	8·89	8·97	8·81	9·54	10·00	8·93	9·23	10·00
Year ...	6·02	6·16	5·88	5·78	5·81	5·75	5·20	5·07	4·62	5·20	5·90

TABLE XXIV.—MEAN SERENITY OF 1874.—(*Continued.*)

	SILCHAR.			HAZAREEBAGH.			BERHAMPORE.			GYA.		
	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.
January	7·68	7·23	8·13	8·19	8·26	8·13	6·02	5·84	6·19	8·70	8·90	8·50
February	4·59	4·39	4·79	7·86	7·89	7·82	4·07	4·46	3·68	8·02	7·61	8·43
March	5·74	5·74	5·74	7·76	8·55	6·97	5·39	5·39	5·39	8·32	8·35	8·29
April	4·47	3·60	5·33	8·50	9·13	7·87	5·30	5·07	5·53	9·17	9·67	8·67
May	3·65	3·03	4·26	7·65	9·16	6·13	2·90	4·03	1·77	9·68	9·87	9·48
June	1·78	2·10	1·47	2·05	2·93	1·17	Untrustworthy.			2·57	2·53	2·60
July	1·63	1·03	2·23	1·68	1·68	1·68	Ditto.			3·92	3·65	4·19
August	1·58	1·42	1·74	1·02	0·97	1·06	2·29	2·10	2·48	3·02	2·58	3·45
September	1·30	1·10	1·50	1·43	1·90	0·97	1·22	1·40	1·03	4·75	4·93	4·57
October	3·65	3·03	4·26	4·52	4·55	4·48	3·05	3·00	3·10	5·53	6·10	4·97
November	5·10	4·93	5·27	7·70	7·73	7·67	4·72	4·90	4·53	7·77	8·13	7·40
December	6·03	5·94	6·13	7·97	8·42	7·52	5·81	5·97	5·65	7·48	7·81	7·16
Year ...	3·93	3·63	4·24	5·53	5·93	5·12	...	...	...	6·58	6·68	6·48

	PATNA.			MONGHYR.			PURNEAH.		
	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.
January	7·04	7·29	6·77	7·40	7·71	7·10	.....	.....	.....
February	7·46	7·57	7·46	7·36	7·71	7·00	.....	.....	.....
March	6·98	7·68	6·29	7·95	8·16	7·74	.....	.....	.....
April	8·75	9·13	8·37	8·68	9·03	8·33	.....	.....	.....
May	8·40	8·48	8·32	8·29	8·16	8·42	.....	.....	.....
June	2·15	2·30	2·00	2·08	2·37	1·80	2·60	2·33	2·87
July	3·03	2·77	3·29	2·71	2·26	3·16	1·82	1·32	2·32
August	2·42	2·29	2·55	3·02	1·81	4·23	1·08	1·00	1·16
September	3·18	3·33	3·03	2·08	1·87	2·30	0·88	0·53	1·23
October	5·53	5·58	5·48	4·90	4·87	4·94	4·71	4·48	4·94
November	7·63	8·17	7·10	7·97	7·47	8·47	7·95	7·77	8·13
December	7·11	7·45	6·77	7·89	7·84	7·94	7·52	7·74	7·29
Year ...	5·81	6·00	5·62	5·86	5·77	5·95	.....	.....	.....

TABLE XXIV.—MEAN SERENITY OF 1874.—(*Concluded.*)

	DARJEELING.			SIBSAGAR.			GOALPARA.		
	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.	Mean.	10*h*.	16*h*.
January	4·60	6·23	2·97	5·10	4·90	5·29	7·40	7·35	7·45
February	4·82	6·32	3·32	3·70	3·43	3·96	7·00	7·00	7·00
March	4·58	6·06	3·10	3·40	3·32	3·48	7·65	7·32	7·97
April	4·42	5·20	3·63	2·70	2·23	3·17	6·38	5·50	7·27
May	3·42	3·65	3·19	1·45	0·61	2·29	5·03	3·97	6·10
June	0·88	0·87	0·90	1·68	1·37	2·00	3·95	3·17	4·73
July	1·37	1·58	1·16	1·19	0·71	1·68	3·92	2·81	5·03
August	1·13	1·32	0·94	0·73	0·26	1·19	4·30	4·23	4·37
September	1·57	1·53	1·60	0·98	0·47	1·50	4·32	4·40	4·23
October	4·32	5·10	3·55	2·11	0·58	3·65	5·92	6·13	5·71
November	6·55	7·97	5·13	4·58	4·07	5·10	8·67	8·40	8·93
December	6·19	6·45	5·94	5·21	4·55	5·87	7·66	6·39	8·94
Year ...	3·65	4·36	2·95	2·74	2·21	2·27	6·02	5·56	6·48

	BENARES.					ROORKEE.				
	Mean.	4*h*.	10*h*.	16*h*.	22*h*.	Mean.	4*h*.	10*h*.	16*h*.	22*h*.
January	7·06	6·81	6·90	6·81	7·74	6·69	7·30	6·26	6·00	7·19
February	8·02	7·89	7·75	7·93	8·50	7·76	7·68	7·96	7·75	7·64
March	7·52	8·61	7·13	6·39	7·94	7·72	7·46	7·00	7·90	8·39
April	8·34	9·03	8·20	6·93	9·23	8·48	8·11	8·73	8·47	8·60
May	8·43	8·77	8·19	7·74	9·03	8·97	8·60	9·23	9·16	8·90
June	2·08	2·15	1·83	1·27	2·75	5·85	5·13	4·90	5·77	7·62
July	2·42	1·94	2·32	1·81	3·61	3·21	2·41	2·68	3·61	4·13
August	1·62	1·26	1·61	1·20	2·41	3·37	2·45	3·00	4·19	3·84
September	3·87	3·72	4·17	3·33	4·30	6·52	6·77	5·53	6·30	7·47
October	7·21	7·40	6·90	6·58	7·97	9·75	9·67	9·94	9·74	9·67
November	8·84	9·50	8·33	7·77	9·73	9·72	10·00	9·43	9·50	9·97
December	7·90	8·45	7·19	7·29	8·68	7·85	8·33	7·77	7·19	8·10
Year ...	6·11	6·29	5·88	5·42	6·83	7·15	6·96	6·87	7·13	7·63

TABLE XXV—MEAN MONTHLY SERENITY OF ADDITIONAL STATIONS IN CEYLON AND THE NORTH-WESTERN AND CENTRAL PROVINCES IN 1874.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Goruckpore	8·00	8·00	8·50	9·50	9·00	4·00	4·00	4·00	5·00	7·50	9·30	9·00	7·15
Jhansi	10·00	10·00	10·00	9·50	10·00	6·50	6·00	4·00	8·40	10·00	10·00	9·80	8·68
Allahabad	7·30	8·00	7·50	9·30	8·80	2·50	0·90	0·40	3·30	7·80	9·20	8·00	6·08
Lucknow	7·40	7·60	7·80	7·70	8·50	3·00	2·50	1·50	4·00	8·60	10·00	7·40	6·33
Agra	8·00	9·30	8·50	9·10	9·10	1·40	4·80	4·10	7·20	9·60	10·00	9·00	7·51
Ajmere	6·10	7·60	6·80	5·00	7·70	1·80	0·20	0·50	?	9·50	8·30	7·80	?
Bareilly	7·20	8·40	6·40	7·80	9·00	2·90	1·50	1·00	5·30	9·50	9·90	8·20	6·42
Meerut	7·00	8·00	6·60	7·00	9·10	4·00	2·50	0·30	6·50	9·70	10·00	8·10	6·57
Saugor	7·95	9·55	9·30	8·80	8·60	2·75	1·55	1·95	6·95	9·55	9·95	9·20	7·17
Jubbulpore	7·10	7·65	7·75	7·10	6·30	2·20	1·45	1·05	3·95	6·55	7·35	7·65	5·51
Hoshungabad	8·00	9·00	8·60	7·15	6·85	2·50	2·60	1·30	4·25	7·60	8·60	8·25	6·22
Chanda	6·55	7·95	7·95	6·75	2·70	1·00	0·15	0·10	0·55	2·70	4·80	5·60	3·90
Raipore	9·70	9·20	8·80	8·50	6·25	3·00	2·50	2·25	3·75	6·75	9·10	9·00	6·57
Seoni	4·60	3·80	3·65	4·50	4·85	6·95	6·85	7·35	6·55	5·50	4·75	4·15	5·29
Nagpore	7·55	8·25	8·15	7·40	4·45	2·15	1·35	0·85	2·20	4·60	6·10	6·90	5·00
Jaffna	6·00	6·90	7·70	7·10	5·20	4·10	4·50	4·30	3·80	4·70	4·40	3·90	5·22
Trincomalee	5·10	5·20	5·70	6·60	4·20	3·40	3·70	4·00	3·10	2·20	4·40	3·00	4·22
Colombo	5·40	5·40	4·70	3·70	2·30	2·40	3·00	3·50	2·70	2·60	4·50	4·80	3·75
Galle	3·60	3·30	3·80	3·90	1·90	2·20	1·80	2·60	2·20	2·00	2·70	3·60	2·80

TABLE XXVI.—AVERAGE MONTHLY SERENITY OF SEVERAL STATIONS DEDUCED FROM THE REGISTERS OF THE YEARS 1869—74.

A.—Four observations daily.

Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	5	8·29	8·74	8·55	7·19	5·93	4·38	3·49	3·84	4·45	4·83	7·09	7·75	6·21
Akyab	4—6	8·93	9·27	8·30	6·97	4·56	2·18	1·84	2·20	2·64	4·90	7·26	8·01	5·59
Cuttack	6	8·27	8·61	7·87	6·72	6·53	3·76	2·91	3·81	4·64	6·16	8·21	8·79	6·36
Saugor Island	5—6	8·24	8·17	6·27	4·82	4·23	2·59	2·35	2·90	3·59	5·47	7·59	8·49	5·39
Chittagong	6	9·25	8·67	7·86	6·37	5·86	3·49	3·03	3·31	4·02	6·25	8·35	9·07	6·29
Dacca	6	8·52	7·81	7·14	5·95	4·95	2·57	1·85	2·24	3·15	5·96	8·34	9·15	5·64
Benares	4—5	7·41	8·05	7·71	7·73	7·42	3·64	1·91	2·02	3·28	7·85	8·81	7·94	6·15
Roorkee	6	7·02	7·34	7·05	8·11	8·50	6·46	3·14	3·70	5·50	9·41	9·36	7·92	6·96

B.—Two observations daily.

Port Blair	6	6·74	7·13	7·67	6·22	4·11	3·22	3·69	3·98	4·01	4·94	6·16	6·90	5·40
Jessore	6	8·58	8·44	7·85	6·84	6·27	3·36	2·59	3·38	3·83	5·99	8·33	9·02	6·21
Silchar	5—6	8·06	7·28	6·88	5·78	5·05	3·55	3·36	3·06	3·34	5·56	7·20	7·71	5·57
Hazareebagh	5—6	7·28	8·08	7·10	7·18	7·04	3·20	1·44	2·59	2·92	6·09	7·90	7·95	5·73
Berhampore	5—6	7·55	7·84	6·88	6·19	5·12	2·11	1·40	1·58	1·82	5·27	7·39	7·98	5·09
Patna	4—5	7·32	7·75	6·71	7·53	7·52	4·06	2·27	2·12	2·96	6·71	8·31	8·15	5·95
Monghyr	6	7·78	8·31	7·93	7·96	7·32	3·29	1·91	2·33	2·81	6·62	8·57	8·24	6·09
Darjeeling	6	4·58	4·45	4·85	4·52	3·00	1·36	1·46	1·40	1·66	4·76	5·30	5·61	3·58
Goalpara	6	6·65	6·76	6·28	5·15	4·07	2·06	2·61	2·58	3·01	5·54	7·18	7·26	4·93
Saugor	4—5	8·68	9·55	9·56	9·24	9·14	6·13	4·11	4·63	7·06	9·51	8·88	9·23	7·98
Jubbulpore	6	7·40	8·04	7·43	7·71	6·56	3·33	1·53	2·09	3·46	7·53	8·01	7·65	5·90
Hoshungabad	5	7·52	8·78	8·12	7·40	7·18	3·69	2·11	2·76	4·15	8·13	8·22	8·23	6·36
Chanda	4—5	7·71	8·11	7·70	6·59	5·52	2·70	0·55	1·59	1·78	5·84	6·80	7·11	5·17
Raipore	6	8·49	9·03	7·74	7·66	6·62	4·38	2·23	2·93	4·17	7·20	8·74	8·76	6·50
Seoni	4—6	5·93	4·90	6·20	5·54	6·18	5·41	4·48	5·26	5·87	5·13	5·83	5·75	5·54
Nagpore	6	7·43	8·78	7·51	6·81	5·83	3·33	1·87	2·17	2·72	6·23	7·18	7·33	5·60

TABLE XXVII.—COMPARISON OF THE MEAN SERENITY OF 1874 WITH THE AVERAGES IN TABLE XXVI.

From Table A.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Vizagapatam	— 0·08	— 0·20	— 0·24	+ 1·11	+ 0·31	— 0·23	+ 1·02	+ 0·29	+ 0·73	— 0·01	+ 0·62	— 0·35	+ 0·25
Akyab ...	+ 0·17	— 0·04	— 0·18	+ 0·97	+ 0·37	+ 0·17	+ 0·85	— 0·11	+ 0·35	— 0·30	— 0·77	+ 0·08	+ 0·13
Cuttack ...	+ 0·20	— 1·14	+ 0·44	+ 1·03	— 0·11	— 0·05	+ 1·82	— 0·08	+ 0·27	— 0·51	— 0·56	+ 0·34	+ 0·13
Saugor Island	— 0·67	— 1·71	+ 0·27	— 0·72	— 0·51	— 0·14	+ 0·62	+ 0·08	— 0·84	— 0·66	— 1·75	— 0·22	— 0·52
Chittagong ...	+ 0·11	— 1·02	+ 0·04	+ 0·89	+ 0·01	+ 0·03	+ 1·06	+ 1·53	— 0·30	— 0·11	— 1·22	+ 0·15	+ 0·10
Dacca ...	— 0·44	— 1·94	— 0·21	+ 0·17	— 0·41	— 0·36	+ 0·13	— 0·44	— 0·33	— 0·95	— 0·90	+ 0·39	— 0·44
Benares ...	— 0·35	— 0·03	— 0·19	+ 0·61	+ 1·01	— 1·56	+ 0·51	— 0·40	+ 0·59	— 0·64	+ 0·03	— 0·04	— 0·04
Roorkee ...	— 0·33	+ 0·42	+ 0·67	+ 0·37	+ 0·47	— 0·61	+ 0·07	— 0·33	+ 1·02	+ 0·34	+ 0·36	— 0·07	+ 0·19

From Table B.

Port Blair ...	+ 1·73	+ 1·80	+ 0·71	+ 0·51	+ 0·37	+ 1·80	+ 0·92	+ 0·15	+ 0·99	+ 0·77	+ 0·27	+ 0·30	+ 0·86
Jessore ...	— 0·40	— 1·49	0	+ 0·51	+ 1·07	— 0·06	— 0·09	— 0·28	— 1·33	— 1·05	— 1·88	— 0·13	— 0·43
Silchar ...	— 0·38	— 2·69	— 1·14	— 1·31	— 1·40	— 1·77	— 1·73	— 1·48	— 2·04	— 1·91	— 2·10	— 1·68	— 1·64
Hazareebagh	+ 0·91	— 0·22	+ 0·66	+ 1·32	+ 0·61	— 1·15	+ 0·24	— 1·57	— 1·49	— 1·57	— 0·20	+ 0·02	— 0·20
Berhampore	— 1·53	— 3·77	— 1·49	— 0·89	— 2·22	?	?	+ 0·71	— 0·60	— 2·22	— 2·67	— 2·17	?
Patna ...	— 0·28	— 0·29	+ 0·27	+ 1·22	+ 0·88	— 1·91	+ 0·76	+ 0·30	+ 0·22	— 1·18	— 0·68	— 1·04	— 0·14
Monghyr ...	— 0·38	— 0·95	+ 0·02	+ 0·72	+ 0·97	— 1·21	+ 0·80	+ 0·69	— 0·73	— 1·72	— 0·60	— 0·35	— 0·23
Darjeeling ...	+ 0·02	+ 0·37	— 0·27	— 0·10	+ 0·42	— 0·48	— 0·09	— 0·27	— 0·09	— 0·44	+ 1·25	+ 0·58	+ 0·07
Goalpara ...	+ 0·75	+ 0·24	+ 1·37	+ 1·23	+ 0·96	+ 1·89	+ 1·31	+ 1·72	+ 1·31	+ 0·38	+ 1·49	+ 0·40	+ 1·09
Saugor ...	— 0·73	0	— 0·26	— 0·44	— 0·54	— 3·38	— 2·56	— 2·68	— 0·11	+ 0·04	+ 1·07	— 0·03	— 0·81
Jubbulpore ...	— 0·30	— 0·39	+ 0·32	— 0·61	— 0·26	— 1·13	— 0·08	— 1·04	+ 0·49	— 0·98	— 0·66	0	— 0·39
Hoshungabad	+ 0·48	+ 0·22	+ 0·48	— 0·25	— 0·33	— 1·19	+ 0·49	— 1·46	+ 0·10	— 0·53	+ 0·38	+ 0·02	— 0·14
Chanda ...	— 1·16	— 0·16	+ 0·25	+ 0·16	— 2·82	— 1·70	— 0·40	— 1·49	— 1·23	— 3·14	— 2·00	— 1·51	— 1·27
Raipore ...	+ 1·21	+ 0·17	+ 1·06	+ 0·84	— 0·37	— 1·38	+ 0·27	— 0·68	— 0·42	— 0·45	+ 0·36	+ 0·24	+ 0·07
Seoni ...	— 1·33	— 1·10	— 2·55	— 1·04	— 1·33	+ 1·54	+ 2·37	+ 2·09	+ 0·68	+ 0·37	— 1·08	— 1·60	— 0·25
Nagpore ...	+ 0·12	— 0·53	+ 0·64	+ 0·59	— 1·38	— 1·18	— 0·52	— 1·32	— 0·52	— 1·63	— 1·08	— 0·43	— 0·60

Table XXVII presents some striking peculiarities in the comparative serenity of the atmosphere in 1874. It will be noticed as remarkable for instance that at Silchar the sky was unusually overcast in every month of the year, while exactly the opposite appears to have been the case at Goalpara, where the serenity was above the average in every month. The latter case is the more remarkable, as there was no deficiency of moisture at Goalpara in any month in the year except June. At Darjeeling, on the other hand, the south-west monsoon months were unusually cloudy, and, as would be expected, the relative humidity was considerably above average. But in November the greatest deviation of humidity above average during the year occurred with a sky abnormally free from cloud. Speculations as to the causes of apparent irregularities of the nature pointed out above would at present be for many reasons unprofitable, even supposing them to be real and not due to the laches of observers. Our methods of determining humidity are still practically imperfect, and are liable to give too high results, except when precautions which cannot always be counted on are taken. The general relations also between clouds and humidity under various conditions of altitude and season are questions which for the most part still remain to be investigated. And until some progress has been made in this direction it would be useless to speculate about apparent anomalies.

If table XXVII be, however, examined from a general point of view, remarkable coincidences will be found, as would be expected, to exist between the irregularities of serenity and those of humidity and temperature before noticed. Thus February was an unusually cloudy month in Bengal and was also abnormally moist. In April and May the high serenity at most stations was accompanied by an excessive temperature and generally excessive dryness. The Central Provinces were, however, a remarkable exception in the latter month, when the humidity was high and the sky more cloudy than usual. The excess of temperature in May was much less in these provinces than in the North-West, probably owing to the unusual quantity of cloud.

June was a cloudy month, and, as has been seen, the temperature was low and the humidity high. On the other hand the failure of the rains in the Lower Provinces in July was coincident with an abnormally high serenity. In October, again, in the Lower Provinces the amount of cloud-covered sky became excessive, and in this month the humidity was abnormally high and the rainfall unusually abundant.

RAINFALL.

THE statistics of rainfall for the year 1874 are given for 194 stations, and are complete, except in the case of one station. Of these, two are in Madras, ten in the North-Western Provinces, one in Arakan, one each in the Andamans and Nicobar Islands; four in Ceylon, seven in the Central Provinces, and two in Berar. Of the 28 Assam stations, 12 have furnished original reports to this office throughout the year, viz., 9 stations in the Sibsagar district, and Goalpara, Silchar and Sylhet. The supervision of the rainfall reports from the remaining Assam stations was in the hands of this office up to the end of June; since which time the original reports have not been received. The data for the remaining months have been taken from the *Assam Gazette*.

The instruments in use at all the Bengal and Assam stations, and it is believed generally elsewhere, are Symon's gauges, five (or in a few cases, six) inches in diameter, the mouth being elevated one foot above the ground. The rainfall is in all cases measured in a graduated glass measure.

Table XXVIII gives the total rainfall of each month of 1874, and that of the year. In Table XXIX is given the number of days on which a measurable quantity of rain fell, the day being reckoned from 18 hours to 18 hours (6 P.M.). Table XXX shows the average monthly and annual rainfall for 146 stations, and incomplete returns for 23 more, for which four years' data are only available for some of the months. The number of years from which these averages are taken necessarily varies, but is in no case less than four. In many

cases, the averages for certain months for the same station are based on unequal periods. The minimum and maximum number of years are shown, for these stations, by two figures in the first column of the table.

The period from which the four year averages have been derived, 1871—74, includes one year, 1871, in which the rainfall over the whole of Northern India was abnormally heavy, and, on the other hand, one year, 1873, when it was unusually scanty. Although averages of rainfall derived from so short a period cannot be regarded in all cases as quite satisfactory, yet a comparison of those based on four years' returns with those derived from longer periods has convinced me that the approximation is sufficiently close (especially in the S. W. monsoon months) to render them of considerable practical value.

Table XXXI shows the amount by which the monthly rainfall and the total rainfall in 1874 exceeded or fell short of the averages of Table XXX for all stations therein given.

TABLE XXVIII.—RAINFALL IN 1874.

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	BENGAL.															
	Western Districts.															
Burdwan.	Burdwan	Burdwan ...	102	1·20	4·07	2·45	1·77	3·95	18·18	5·90	6·26	7·05	10·61	...	...	61·44
		Cutwa ...	...	1·83	4·70	0·05	0·40	6·60	11·58	2·84	4·39	10·03	7·86	...	...	50·28
		Culna ...	...	1·17	4·30	0·71	0·91	3·22	8·37	7·14	8·93	4·79	6·55	0·56	...	46·65
		Bood-bood ...	...	1·14	3·62	0·88	0·51	2·79	10·64	9·42	8·42	8·09	11·37	0·57	...	57·45
		Raneegunge ...	326	1·32	3·18	0·28	0·03	2·88	8·75	5·22	8·47	4·11	5·14	0·45	...	39·83
		Jehanabad ...	...	0·70	5·68	0·62	0·60	3·23	7·50	4·71	6·24	12·64	8·09	...	...	50·01
	Bankoora ...	Bankoora ...	...	1·45	2·54	0·74	0·07	2·76	11·64	7·35	12·14	5·05	5·87	...	...	49·91
	Beerbhoom ...	Sooree ...	157	0·53	3·80	1·33	0·53	2·06	14·28	7·18	10·87	21·63	7·34	0·25	...	69·80
	Midnapore ...	Midnapore ...	108	1·59	2·52	1·00	0·82	1·25	7·04	5·83	10·18	7·09	15·29	1·64	...	54·25
		Tumlook	...	0·75	5·84	2·46	0·60	1·91	7·46	7·18	14·83	5·42	11·01	0·15	...	57·41
		Gurbetta	...	1·50	4·00	2·08	0·95	1·43	10·83	9·42	6·64	13·30	2·73	3·40	...	56·28
		Contai	43	0·99	5·99	0·83	1·05	3·00	11·16	12·37	17·54	15·80	22·25	1·05	...	92·63
	Hooghly ...	Hooghly	30	0·84	4·06	0·60	0·36	5·22	3·69	6·37	4·08	6·43	8·34	0·38	...	40·37
		Serampore ...	...	0·54	3·97	1·36	1·42	1·36	7·52	6·89	9·29	9·98	11·98	0·53	...	54·94
	Howrah ...	Howrah	18	0·55	3·49	0·86	0·37	1·82	4·57	6·36	9·46	9·71	13·54	0·50	...	51·23
	Central Districts.															
Presidency.	24-Pergunnahs ...	Saugor Island ...	6	1·04	3·44	0·10	1·02	3·65	14·48	8·97	16·94	7·56	14·45	0·44	...	72·09
		Calcutta	18·11	0·94	3·77	1·94	1·20	1·16	6·89	8·89	10·19	12·67	13·71	0·12	...	61·48
		Alipore	16	0·95	4·13	1·86	0·32	1·84	5·10	8·38	11·12	13·82	13·02	0·09	...	60·63
		Busseerhaut ...	...	0·70	1·49	0·62	1·35	3·18	4·02	9·17	10·10	3·67	8·15	1·58	...	44·03
		Baraset	20	0·61	3·68	1·41	2·34	2·34	5·25	11·04	6·05	7·36	10·92	0·51	...	51·51
		Diamond Harbour	10	0·40	3·34	0·42	1·57	2·02	8·79	9·77	14·38	10·41	9·65	0·23	...	60·98
		Barripore ...	...	0·41	1·96	0·38	1·10	2·48	8·37	8·87	11·27	9·77	10·54	3·68	...	58·83
		Satkhira	...	0·34	2·81	0·42	1·31	2·51	6·43	8·12	5·28	8·63	5·92	0·59	...	42·36
		Barrackpore ...	20	0·35	4·42	0·79	0·65	2·16	8·74	6·33	8·27	9·56	11·90	1·01	...	54·18
		Dum-Dum... ...	20	0·63	2·37	0·52	0·76	2·71	7·28	5·88	8·41	10·10	9·93	0·50	...	49·09
	Nuddea ...	Kishnaghur ...	...	1·27	4·66	1·10	0·70	5·61	11·65	5·69	8·90	10·42	8·64	0·48	...	49·12
		Bongong	...	0·43	4·52	0·69	1·74	2·40	10·14	4·94	3·71	4·49	4·18	0·16	...	37·40
		Meherpore ...	...	0·53	3·82	3·29	2·59	4·36	9·64	3·84	7·34	8·08	4·93	...	...	48·42
		Chooadangah ...	...	0·83	4·34	2·10	2·59	7·30	8·24	4·08	4·55	9·42	7·73	...	...	51·18
		Kooshtea	...	1·05	2·72	1·45	4·04	5·95	9·72	5·44	4·81	11·45	3·98	0·13	...	50·74
		Ranaghat	...	2·86	3·28	0·60	1·68	4·00	8·64	4·04	9·14	7·33	4·62	0·32	...	46·51
	Jessore ...	Jessore	20	2·22	2·35	1·61	0·84	5·88	10·45	3·42	10·46	8·83	6·82	0·09	...	52·97
		Narail	...	2·17	2·26	0·92	1·90	5·56	14·02	4·74	6·27	9·83	4·41	0·08	...	52·16
		Khoolnah	...	1·80	5·12	0·64	1·54	3·83	9·30	8·50	7·35	9·75	7·37	0·40	...	55·60
		Jhenidah	...	1·59	4·04	1·96	3·86	6·33	13·58	2·53	4·70	9·67	6·35	0·02	....	54·63
		Bagirhat	...	1·20	3·24	1·65	1·09	2·77	15·03	8·71	4·53	8·66	7·75	0·31	...	54·94
		Magoorah	...	0·91	3·63	1·03	3·39	8·57	5·61	5·58	4·73	12·16	5·05	0·28	...	50·94
Rajshahye.	Moorshedabad...	Berhampore ...	64	1·10	1·93	0·22	2·60	3·97	9·55	6·10	2·96	11·25	10·03	...	...	49·71
		Ramporehaut ...	...	0·76	2·37	0·70	1·39	1·95	12·88	6·74	7·12	23·47	11·69	...	...	69·07
		City Moorshedabad	...	0·88	2·06	0·13	1·19	4·01	13·57	6·30	5·01	9·12	10·59	...	...	52·86
		Jungipore... ...	...	0·26	1·77	1·44	1·93	3·25	10·94	9·23	8·58	16·30	13·58	...	...	67·28
		Azimgunge ...	...	0·74	1·90	0·40	1·55	3·09	13·48	9·34	5·06	6·71	12·93	...	...	55·20
		Lalgola	...	1·15	1·34	0·37	2·50	5·10	8·03	7·62	4·49	19·12	19·80	...	...	69·52
	Dinagepore ...	Dinagepore ...	...	0·13	1·82	0·91	3·06	3·85	14·23	17·91	6·06	17·73	13·59	...	...	79·29
	Maldah	Maldah	160	0·55	1·25	1·55	2·61	3·09	8·90	11·90	4·70	23·14	11·07	...	...	68·76
		Chanchal	...	...	1·63	...	2·70	2·54	19·06	12·45	7·80	22·72	9·76	...	...	78·72
	Rajshahye ...	Beauleah	110	0·45	2·54	0·24	2·73	6·82	6·24	5·93	5·72	16·39	8·98	...	...	56·04
		Nattore	...	1·91	2·36	0·50	3·34	8·39	15·17	6·95	10·89	18·66	7·79	...	...	75·96

TABLE XXVIII.—RAINFALL IN 1874.—(*Continued.*)

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	BENGAL.—(*Contd.*)															
	Central Districts.—(Contd.)	Rungpore	...	3·80	1·55	1·40	4·30	8·73	18·80	19·76	3·64	18·35	14·24	...	...	94·57
Cooch Behar.	Rungpore ...	Bhownigunge ...	...	1·10	0·98	0·92	2·01	8·50	13·36	9·96	6·71	19·14	11·23	...	...	73·91
Rajshahye.—(*Contd.*)		Titalya	...	1·20	0·93	0·73	4·42	9·34	27·55	15·72	15·27	39·76	8·84	...	...	123·78
	Bogra	Bogra	...	2·49	5·66	0·10	6·90	8·01	16·35	10·83	9·70	16·50	9·28	...	...	85·82
	Pubna	Pubna	...	0·55	1·89	1·66	5·22	10·57	8·58	3·15	8·11	10·84	3·98	0·13	...	54·68
		Serajgunge ...	...	1·50	0·77	0·45	7·65	8·63	8·96	5·39	4·90	13·94	4·25	...	...	56·44
	Darjeeling	Darjeeling ...	6,912	...	1·00	0·82	6·95	3·30	29·37	14·71	22·10	26·08	20·59	...	0·08	125·00
	Julpigoree ...	Julpigoree ...	...	1·18	0·78	0·96	3·54	11·74	24·99	21·06	17·27	56·49	9·57	...	...	147·58
		Buxa	1,800	0·46	1·40	2·05	8·56	18·11	54·26	48·13	39·35	45·79	13·76	0·03	...	231·90
		Bodah	...	1·30	0·98	1·15	3·89	8·38	28·04	21·26	19·53	29·80	12·79	...	...	127·12
	Cooch Behar ...	Cooch Behar ...	...	1·40	0·63	0·93	8·03	15·74	29·93	40·76	16·70	33·06	10·04	...	...	157·22
	Eastern Districts.															
	Dacca	Dacca	35	0·88	1·88	4·07	3·09	13·04	6·40	6·18	5·08	7·59	3·08	...	...	52·19
		Moonsheegunge ...	...	0·81	1·98	2·77	5·71	11·55	6·36	9·39	7·06	11·20	6·79	...	...	65·62
		Manickgunge ...	...	0·89	2·06	2·18	2·42	13·54	4·65	5·13	3·47	15·89	2·99	...	...	53·22
	Furreedpore ...	Furreedpore ...	...	1·16	4·07	4·34	2·58	14·13	7·33	4·34	5·30	21·13	2·41	0·21	....	67·00
		Goalundo	...	0·98	4·01	1·87	2·43	8·49	6·83	4·02	5·60	14·23	3·07	...	...	51·39
		Madaripore ...	...	1·14	1·58	3·67	1·44	14·07	10·24	11·06	5·20	11·33	8·11	0·10	...	67·94
Dacca.	Backergunge ...	Burrisal	...	1·01	3·67	0·35	1·02	4·19	15·65	17·21	4·10	11·05	9·61	0·18	...	68·04
		Perozepore ...	...	0·70	1·62	0·76	0·68	2·79	11·72	0·72	3·92	13·45	9·64	0·85	...	55·85
		Patooakhally ...	...	0·28	1·99	0·55	0·61	6·94	23·16	21·71	8·85	5·48	11·49	...	...	81·06
		Dowlatkhan ...	...	0·70	3·25	0·95	2·25	10·17	16·02	18·49	16·40	7·35	8·31	0·60	...	84·49
	Mymensingh ...	Mymensingh ...	...	1·14	3·84	2·77	6·33	8·58	15·43	10·60	8·26	12·99	3·49	...	...	73·43
		Jamalpore... ...	...	1·00	3·78	0·30	4·26	4·71	15·15	6·47	8·99	12·54	8·29	...	...	65·49
		Atia	...	0·43	3·05	1·08	6·47	4·65	7·14	4·51	6·60	14·65	5·24	0·15	...	53·97
		Kishoregunge ...	...	2·03	3·54	7·47	5·25	5·65	10·77	10·57	4·37	13·65	5·91	0·40	...	69·59
	Chittagong ...	Chittagong ...	90	...	2·77	1·66	0·59	17·07	15·38	13·99	6·56	15·79	7·02	1·76	...	83·09
		Cox's Bazar ...	...	0·05	0·21	1·32	0·25	11·30	29·18	24·60	12·97	12·17	10·93	2·90	...	105·88
Chittagong.	Noakholly ...	Noakholly ...	...	0·24	3·14	2·58	0·25	14·74	19·78	13·97	21·07	18·15	10·80	0·84	...	105·56
	Tipperah ...	Comillah ...	...	1·10	1·89	3·39	2·24	15·94	9·70	13·13	6·58	9·80	8·40	0·19	...	72·36
		Brahmunbariah...	...	0·97	4·72	2·44	4·19	8·39	5·59	8·08	4·89	7·54	5·82	...	...	52·63
	Chittagong Hill Tracts ...	Rungamatee Hill	...	0·20	2·07	3·14	1·39	13·99	14·95	9·33	6·73	13·58	9·65	4·07	...	79·10
	Hill Tipperah ...	Hill Tipperah ...	...	1·44	2·88	2·08	6·11	10·12	8·28	8·02	7·69	9·22	6·66	1·65	...	64·15
	BEHAR.															
	Patna ...	Patna	179	0·46	0·58	0·37	0·37	...	10·66	15·00	5·29	11·98	4·97	...	...	49·68
		Behar	...	0·45	1·93	0·27	...	0·22	9·66	11·48	9·06	7·97	5·92	...	...	46·96
		Barh	...	0·29	1·05	1·37	0·11	0·07	8·60	6·00	9·00	11·46	4·58	...	...	42·53
		Dinapore	...	0·45	0·32	0·45	...	...	13·50	13·55	8·50	11·25	2·00	...	...	50·02
		Dehree	362	1·01	0·67	0·17	...	0·06	14·45	5·15	13·55	10·80	5·53	...	...	50·85
	Gya	Gya	347	1·27	1·26	0·07	...	0·07	11·58	8·10	15·13	6·10	2·32	...	...	45·90
		Nowadah	...	0·60	1·86	0·52	...	0·88	18·07	4·96	16·44	10·91	5·74	...	...	59·98
Patna.		Aurungabad ...	...	1·10	0·17	0·53	...	...	12·89	9·07	21·19	12·86	10·46	...	...	68·27
		Jehanabad ...	...	0·17	0·89	0·55	...	0·14	10·98	9·60	18·22	7·68	2·45	...	...	50·68
	Shahabad ...	Arrah	191	0·31	1·00	0·25	...	0·05	17·32	8·31	12·17	13·07	2·30	...	...	54·78
		Sasseram	...	0·66	1·04	0·07	...	...	15·21	6·05	17·38	3·78	11·48	...	...	55·67
		Buxar	...	0·50	1·00	0·40	...	...	14·15	7·36	16·78	7·45	7·75	...	0·35	52·74
		Bhubooah	...	0·44	0·37	0·79	....	...	16·32	6·78	26·85	8·75	7·22	...	...	67·72
	Tirhoot ...	Mozufferpore ...	...	0·09	0·80	0·30	1·07	0·09	8·95	13·06	4·59	10·60	4·44	...	...	43·99
		Durbhunga ...	...	0·19	0·89	0·21	0·54	1·19	11·58	17·41	3·95	17·59	2·72	...	...	56·27
		Hazeepore... ...	...	0·40	0·63	0·14	0·66	...	10·29	11·67	11·50	10·24	6·66	...	...	52·19
		Mudhoobannee ...	...	0·08	0·76	0·16	0·58	1·07	13·51	10·50	2·49	23·60	3·86	...	...	56·61
		Seetamaree ...	...	...	0·70	0·20	0·85	1·82	7·99	10·70	3·94	16·45	6·35	...	...	49·00
		Tajpore	...	0·60	0·56	0·08	0·92	0·30	9·78	11·99	4·85	11·55	3·21	...	...	43·79

TABLE XXVIII.—RAINFALL IN 1874.—(*Continued.*)

Divisions.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Patna.—(*Contd.*)	Behar.—(*Contd.*)															
	Sarun	Chupra	182	0·22	0·87	0·39	...	...	9·67	12·01	9·63	7·99	1·29	...	...	42·07
		Sewan	...	0·03	0·77	0·42	0·11	0·07	15·45	5·84	11·10	9·74	2·74	...	0·03	46·30
	Chumparun	Motiharee	...	...	1·10	0·31	0·10	1·56	12·32	7·74	7·15	16·15	3·93	...	...	50·36
		Bettiah	...	0·10	1·00	...	...	1·60	8·84	19·57	6·88	17·24	4·11	...	...	59·34
Bhagulpore.	Monghyr	Monghyr	160	0·40	1·26	0·33	0·31	1·85	15·73	11·48	8·68	13·07	6·43	...	...	59·59
		Begoosarai	...	0·31	0·96	0·64	0·57	0·43	8·24	4·52	6·00	9·32	7·50	...	...	38·19
		Jamooe	...	2·60	1·84	...	1·30	0·52	13·79	5·37	12·32	8·13	4·86	...	...	50·73
	Bhagulpore	Bhagulpore	146	0·33	1·47	0·05	0·96	2·13	15·99	8·21	7·04	8·89	5·71	...	...	50·78
		Soopool	...	0·17	0·83	0·40	1·23	0·42	17·22	13·83	8·97	20·31	4·73	...	...	68·11
		Muddehpoora	...	0·10	0·94	0·01	1·90	0·40	14·53	12·70	9·30	23·60	7·90	...	...	71·38
		Banka	...	0·86	1·61	0·07	0·52	0·04	18·07	6·72	7·62	12·33	5·35	...	...	53·19
		Sonbursa	...	0·33	1·16	...	2·26	0·70	16·47	7·34	10·84	25·95	7·28	...	...	72·33
	Purneah	Purneah	128	0·11	1·59	...	3·05	0·76	13·78	17·84	11·20	17·91	7·32	...	...	73·56
		Kissengunge	...	0·64	1·41	0·86	1·11	2·15	23·28	23·48	14·97	21·05	7·86	...	...	96·81
		Arrariah	...	0·36	1·95	1·57	2·46	3·49	25·34	15·37	12·16	23·79	6·76	...	...	93·25
	Sonthal Pergunnahs	Nya Doomka	...	0·11	1·87	1·32	0·57	1·31	9·17	9·53	15·58	13·32	7·47	...	...	60·25
		Deoghur	...	0·20	2·17	0·25	0·47	0·50	14·41	7·15	10·23	17·38	7·40	...	...	60·16
		Rajmehal	...	0·20	0·60	0·70	0·10	1·10	9·60	5·90	9·80	19·20	9·70	...	...	56·90
		Godda	...	0·50	2·25	0·50	...	0·25	12·70	6·10	4·56	16·56	5·78	...	...	49·20
Orissa.	Orissa.															
	Cuttack	Cuttack	30	1·82	2·23	0·63	...	3·48	16·92	16·13	20·39	12·13	10·71	2·20	0·05	86·74
		Jajpore	...	0·90	1·90	0·40	0·10	1·40	17·95	19·50	8·20	10·10	14·85	1·70	...	68·00
		Kendraparah	...	1·30	0·30	0·20	0·40	0·90	6·70	12·50	12·50	6·20	11·40	3·40	...	55·80
		Jugutsingpore	...	0·50	0·60	1·40	...	1·40	10·70	11·90	12·20	3·70	6·20	4·20	...	51·50
		False Point	18	0·70	0·90	0·70	...	2·00	9·25	13·70	24·10	9·50	19·50	3·65	...	89·06
	Pooree	Pooree	15	0·66	1·00	0·05	...	0·35	10·84	11·78	14·91	4·87	9·62	7·54	0·16	61·78
		Kheordah	...	0·45	1·58	1·08	...	0·73	13·78	18·12	13·84	11·44	10·68	4·02	0·09	76·71
	Balasore	Balasore	15?	0·33	3·47	0·79	0·07	1·30	5·08	13·43	10·15	7·60	12·03	0·34	...	55·19
		Bhuddruck	..	1·77	4·48	0·74	2·63	0·12	7·34	13·01	6·51	12·37	7·16	1·44	...	57·57
		Jellasore	...	2·90	2·78	0·52	1·90	0·03	8·68	19·01	13·32	12·81	15·58	0·65	...	78·18
		Sorah	...	0·77	0·82	1·35	1·85	5·55	5·85	14·33	12·08	10·56	10·07	1·39	...	64·62
		Chandbally	...	0·45	1·19	0·32	...	1·08	10·16	11·68	14·37	6·14	12·74	2·38	0·20	60·71
	Cuttack Tributary Mehals	Sumbulpore	451	1·35	0·97	0·71	...	2·50	16·48	11·57	27·83	5·06	4·37	0·20	...	70·14
	Chutia Nagpore.															
	South-Western Frontier Agency.															
	Hazareebagh	Hazareebagh	2,010	0·79	3·19	0·42	0·31	1·18	10·82	9·78	16·35	8·01	8·19	1·17	...	60·21
		Pachumba	...	0·38	3·06	0·60	2·73	1·42	12·77	7·23	10·66	11·27	4·76	...	...	54·85
	Lohardugga	Ranchee	...	1·36	3·48	2·01	0·27	1·38	6·37	11·13	16·92	9·85	7·39	0·09	...	60·25
		Palamow	...	1·65	1·79	0·53	...	0·01	18·79	14·88	14·80	10·20	10·05	...	...	72·70
	Singbhoom	Chyebassa	...	0·77	3·68	2·42	0·03	1·84	7·20	11·65	15·55	10·59	4·14	0·42	...	58·29
	Manbhoom	Purulia	...	2·07	2·97	0·35	0·67	0·91	7·87	4·19	9·20	17·07	3·80	0·19	...	49·29
		Gobindpore	...	0·85	4·20	0·70	...	2·00	14·11	10·76	10·58	8·88	6·87	...	...	58·98
	Assam.															
	Sylhet	Sylhet	...	1·81	4·60	8·51	20·70	19·23	22·35	16·79	12·19	28·90	8·86	...	...	143·94
	Cachar	Silchar	89	2·26	5·35	9·03	9·94	19·21	16·58	16·58	15·42	17·53	6·98	0·37	...	119·25
		Hylakandy	...	2·69	5·88	8·16	9·56	16·92	12·50	13·77	12·20	14·38	5·00	0·15	...	101·19
		Koyah	...	1·20	4·74	10·27	12·11	15·47	10·56	13·61	20·13	12·41	3·99	0·22	...	104·68
	Goalpara	Goalpara	386	0·39	1·30	2·64	9·33	20·62	16·37	24·59	6·72	13·27	11·70	...	...	106·93
		Dhoobree	...	...	0·63	0·10	11·15	32·30	22·10	19·20	4·75	14·39	8·50	...	...	113·12
	Kamrup	Gauhati	...	0·56	1·90	4·15	5·27	12·65	5·16	7·80	9·77	4·79	6·36	...	...	58·41
		Burpettah	...	1·20	2·39	2·75	8·71	19·23	11·56	21·69	7·82	9·72	8·25	0·11	...	93·93

TABLE XXVIII.—RAINFALL IN 1874.—(*Concluded.*)

Division.	Districts.	Stations.	Elevation in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Assam—(*Contd.*)															
	Darrang	Tezpur	...	0·18	1·73	3·74	8·22	21·29	5·28	9·83	16·98	6·83	5·25	...	...	79·28
		Mungledye ...	...	0·16	3·78	4·09	6·52	16·69	9·16	7·52	7·49	6·63	2·83	0·02	...	64·89
	Nowgong	Nowgong	...	0·60	2·32	3·83	3·07	13·19	6·80	11·86	19·15	14·83	4·11	...	...	79·76
		Sibsagar ...	332	2·31	3·25	4·45	13·68	29·75	26·28	16·05	17·82	5·51	6·15	0·93	0·07	126·25
		Golághát	...	1·79	3·10	4·97	5·94	20·77	8·46	14·79	21·42	8·32	2·59	0·59	...	92·74
		Jorehat	...	1·47	2·71	4·69	11·69	25·35	14·83	15·06	18·55	6·13	1·79	1·00	0·07	103·34
		Nazeerah	...	1·83	5·09	5·42	13·12	29·66	15·40	23·06	24·18	7·03	3·87	0·07	0·16	133·89
	Sibsagar	Deopanie	...	2·25	3·61	5·82	10·23	24·39	13·11	15·64	14·29	7·51	11·02	...	0·32	108·19
		Hattipootie ...	...	1·86	3·43	6·71	11·08	25·52	16·46	18·09	15·11	6·95	11·20	0·07	0·13	116·61
		Mazengah	...	1·50	3·16	4·85	8·98	24·55	12·50	19·50	24·20	6·78	3·09	0·14	0·16	114·41
		Suntock	....	2·07	4·01	6·41	12·96	29·43	15·92	23·08	22·06	11·28	8·35	...	...	135·57
		Cherideo	...	2·52	3·85	5·17	13·86	26·92	16·33	22·75	21·22	10·21	6·12	0·20	...	129·15
		Dibrugarh ...	...	1·53	3·40	6·68	8·80	26·46	20·83	20·72	25·56	17·84	5·14	1·85	0·18	138·99
	Luckhimpur ...	North Luckhimpur	...	1·35	1·44	4·96	12·55	25·92	23·61	15·25	17·82	11·65	6·31	2·26	0·77	123·89
		Sadiya	...	2·99	5·33	8·61	7·61	28·04	14·10	22·85	15·41	15·05	1·56	0·88	0·77	123·11
	Naga Hills ...	Samagoodting ...	...	1·29	2·65	2·68	2·31	5·62	6·82	7·13	?	?	?	?	?	?
	Khasi and Jaintia Hills ...	Shillong	4,826	1·30	2·51	1·16	3·64	6·57	15·09	29·63	16·22	14·85	10·66	1·80	...	97·43
		Jowai	...	0·68	3·55	3·20	5·86	13·11	22·05	49·67	6·50	11·70	7·25	0·10	...	123·67
		Cherrapoonjee ...	4,460	1·07	4·66	10·97	28·33	96·43	64·27	115·10	45·36	47·96	8·03	0·37	...	422·55
	Garo Hills ...	Tura	...	2·14	3·89	1·49	3·07	13·87	16·75	34·53	7·80	30·69	19·10	...	...	133·32
	Other Provinces.															
	North-Western Provinces ...	Benares	263	...	0·27	0·12	...	...	13·57	9·16	27·43	8·37	3·50	...	0·05	62·47
		Goruckpore ...	255	...	1·00	0·10	...	0·30	11·60	23·20	11·60	9·00	3·30	...	...	60·10
		Jhansi	836	...	...	...	...	...	3·50	9·20	18·60	2·90	...	...	...	34·20
		Allahabad	289	...	...	0·56	...	...	6·67	12·98	8·93	8·50	0·22	...	...	37·86
		Lucknow	364	0·07	0·29	0·10	...	...	12·19	12·88	17·68	7·44	0·37	...	...	51·02
		Agra	551	0·06	...	0·13	0·13	...	6·37	10·33	9·62	1·65	...	...	...	28·29
		Ajmere	...	0·05	0·30	0·20	...	0·66	4·59	5·47	5·20	...	...	...	...	16·47
		Bareilly	570	0·05	0·80	0·63	...	0·30	7·65	14·20	10·10	21·75	...	...	...	55·50
		Meerut	739	0·20	1·50	1·17	...	...	8·95	12·98	7·92	4·35	...	...	...	37·07
		Roorkee	880	1·06	2·57	2·43	...	0·38	11·81	16·95	8·62	3·65	...	...	0·04	47·46
	Central India ...	Jubbulpore ...	1,353	0·36	0·13	...	...	0·97	18·52	25·33	36·99	4·38	0·20	...	0·05	86·93
		Nagpore	1,025	...	0·25	...	...	0·57	8·53	19·43	7·33	4·61	0·04	...	0·12	40·88
		Saugor	1,860	0·94	...	0·01	...	1·30	15·78	23·66	21·39	5·73	...	...	...	68·81
		Hoshungabad ...	1,030	...	...	...	...	0·15	11·35	15·30	12·80	5·10	...	...	...	44·70
		Chanda	690	0·06	0·49	0·10	0·41	0·68	11·20	11·11	19·24	10·95	0·43	0·19	0·03	45·89
		Raipore	977	0·73	0·48	0·41	...	0·45	19·47	21·12	19·06	7·18	3·34	...	...	72·24
		Seoni	2,030	0·20	...	...	...	0·45	11·92	18·59	16·20	13·45	...	...	0·10	60·91
	Berars	Akola	930	...	...	0·01	...	0·08	8·93	9·54	1·03	6·80	0·24	0·05	...	26·68
		Omraoti	1,162	...	...	...	0·33	0·54	7·88	9·88	2·85	5·30	0·18	...	0·10	27·06
	Madras	Vizagapatam ...	31	0·40	...	...	...	2·10	3·00	4·70	3·10	9·80	21·00	3·30	0·50	47·90
		Madras	27	...	...	...	...	7·96	3·76	6·18	1·98	5·89	21·26	10·29	5·57	62·89
	Ceylon	Jaffna	9	0·20	3·94	...	3·66	2·84	3·82	0·63	0·04	4·37	4·76	10·30	10·29	44·85
		Trincomallee ...	175	2·13	2·76	2·04	0·08	2·53	2·27	5·15	3·31	10·20	8·18	9·73	13·18	61·56
		Colombo	42	2·23	5·18	1·66	3·12	12·34	4·90	2·95	1·16	1·07	10·24	9·10	3·08	57·03
		Galle	40	3·74	6·59	3·45	3·06	13·34	8·14	5·82	2·23	4·36	11·85	13·71	5·96	83·15
	Arrakan	Akyab	21	...	0·06	1·76	0·15	8·08	39·41	28·39	29·45	18·17	13·99	2·51	...	141·97
	Andamans ...	Port Blair	61	0·20	...	0·20	0·32	26·53	13·05	14·98	16·37	13·11	9·72	8·58	1·79	105·35
	Nicobars ...	Nancowry	134	1·01	2·70	2·33	4·21	16·03	15·26	10·54	13·50	13·61	19·07	5·94	4·47	108·67

TABLE XXIX.—DAYS ON WHICH RAIN WAS MEASURED IN 1874.

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Bengal.													
		Western Districts.													
Burdwan.	Burdwan	Burdwan	2	6	5	3	7	19	18	17	15	11	...	...	103
		Cutwa	2	5	1	2	8	18	8	13	18	8	...	...	83
		Culna	2	4	3	1	7	16	13	15	9	7	1	...	78
		Bood-Bood	1	5	4	2	6	14	17	14	13	9	1	...	86
		Raneegunge	3	6	4	1	6	11	19	20	12	10	2	...	94
		Jehanabad	1	7	5	1	6	18	15	18	13	6	...	...	90
	Bankoora	Bankoora	2	5	6	3	7	22	20	23	18	11	...	...	117
	Beerbhoom	Sooree	3	6	4	1	6	15	18	23	19	8	1	...	104
	Midnapore	Midnapore	3	7	6	4	7	14	13	17	17	9	2	...	99
		Tumlook	2	5	5	1	5	14	11	12	10	6	1	...	72
		Gurbetta	2	4	6	3	5	11	14	16	16	10	2	...	89
		Contai	3	5	4	2	4	14	14	11	14	14	1	...	86
	Hooghly	Hooghly	1	5	2	1	4	10	14	15	8	14	2	...	76
		Serampore	1	6	8	3	5	20	17	22	16	15	3	...	116
	Howrah	Howrah	3	5	8	3	7	18	20	23	18	19	3	...	127
		Central Districts.													
Presidency.	24-Pergunnahs...	Saugor Island	2	4	1	4	4	16	22	21	16	16	4	...	110
		Calcutta	3	6	6	4	6	22	21	22	17	15	2	...	124
		Alipore	3	6	6	2	5	17	19	20	16	13	1	...	108
		Busseerhaut	2	3	3	2	6	11	19	15	10	12	3	...	86
		Baraset	1	5	8	4	5	19	18	18	16	13	2	...	109
		Diamond Harbour	2	5	4	3	6	17	23	24	18	14	2	...	118
		Barripore	1	6	6	2	6	20	21	16	15	11	4	...	108
		Satkhira	2	7	3	2	8	14	18	16	17	13	3	...	103
		Barrackpore	1	4	4	2	5	19	18	20	15	12	3	...	103
		Dum-Dum	2	5	4	3	5	16	21	23	20	12	2	...	113
	Nuddea	Kishnaghur	2	3	5	2	10	17	19	23	14	10	1	...	111
		Bongong	1	3	3	2	7	15	11	11	10	3	1	...	72
		Meherpore	1	5	4	4	8	15	8	13	15	8	...	...	81
		Chooadangah	1	5	5	5	5	16	14	16	16	6	...	...	89
		Kooshtea	2	5	5	9	11	17	14	18	15	11	1	...	108
		Ranaghat	2	5	2	3	8	14	10	14	8	8	1	...	75
	Jessore	Jessore	1	6	6	5	13	21	18	23	15	10	2	...	120
		Narail	2	6	5	6	11	17	16	19	12	14	1	...	109
		Khoolnah	3	7	5	6	7	19	18	19	18	12	1	...	115
		Jhenidah	3	5	5	5	10	19	14	15	13	9	1	...	99
		Bagirhat	2	4	3	2	5	16	19	12	17	11	2	...	93
		Magoorah	3	5	6	6	11	17	17	16	16	11	2	...	110
Rajshahye.	Moorshedabad	Berhampore	2	5	2	2	7	11	9	9	15	10	...	...	72
		Rampore Haut	2	4	2	3	5	11	12	13	17	10	...	...	84
		City Moorshedabad	2	5	4	2	8	16	14	16	15	10	...	...	92
		Jungipore	3	5	4	4	5	13	15	14	17	8	...	...	88
		Azimgunge	2	3	2	4	8	10	13	10	12	14	...	...	78
		Lalgola	3	3	2	5	6	14	13	13	16	11	...	...	86
	Dinagepore	Dinagepore	2	4	1	4	5	17	18	15	14	7	...	...	87
	Maldah	Maldah	3	6	2	4	7	15	19	18	22	11	...	...	107
		Chanchal	...	5	...	4	3	18	22	21	19	10	...	...	102
	Rajshahye	Beauleah	2	5	3	3	7	15	13	18	20	10	...	...	101
		Nattore	2	4	1	4	6	16	10	20	13	7	...	...	83

TABLE XXIX.—DAYS ON WHICH RAIN WAS MEASURED IN 1874.—(*Contd.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Bengal.—(*Contd.*) *Central Districts.*—(Contd.)														
Rajshahye.—(*Contd.*)	Rungpore	Rungpore	2	5	2	7	12	18	22	16	19	7	...	...	110
		Bhowanigunge	2	4	1	5	10	14	19	16	17	8	...	...	96
		Titalya	1	5	1	5	9	18	12	21	16	6	...	...	94
	Bogra	Bogra	1	4	1	8	7	20	19	22	21	10	...	...	113
	Pubna	Pubna	1	5	5	10	10	22	20	24	13	9	1	...	120
		Serajgunge	4	3	4	10	11	12	9	11	18	9	...	...	91
Cooch Behar.	Darjeeling	Darjeeling	...	4	6	13	16	20	28	28	27	13	...	1	105
	Julpigoree	Julpigoree	3	4	3	8	14	22	21	23	24	7	...	...	129
		Buxa	2	5	7	16	21	29	23	28	25	15	2	...	173
		Bodah	1	4	3	3	7	21	17	20	22	6	...	...	104
	Cooch Behar	Cooch Behar	2	4	4	9	18	24	22	23	21	9	...	...	136
	Eastern Districts.														
Dacca.	Dacca	Dacca	4	8	8	13	13	18	20	25	17	14	...	...	140
		Moonshieegunge	3	7	6	9	10	20	16	18	17	9	...	...	115
		Manickgunge	3	6	5	6	14	15	10	14	17	10	...	...	100
	Furreedpore	Furreedpore	4	6	6	5	13	17	14	21	13	9	1	...	109
		Goalundo	3	6	7	6	12	19	17	22	18	11	...	...	121
		Madaripore	3	6	6	3	8	19	19	17	13	11	1	...	106
	Backergunge	Burrisal	3	5	2	2	9	20	24	22	20	14	2	...	128
		Perozepore	2	3	3	1	5	16	21	14	10	11	2	...	88
		Patoakhally	2	3	5	1	9	21	30	24	10	18	...	...	123
		Dowlatkhan	2	5	3	2	8	13	20	21	10	13	2	...	99
	Mymensingh	Mymensingh	2	4	5	7	13	24	19	19	17	10	...	...	120
		Jamalpore	1	4	1	5	10	14	14	15	14	11	...	...	89
		Atia	2	5	3	10	7	17	14	19	13	10	1	...	106
		Kishoregunge	4	7	9	9	13	22	17	21	16	8	1	...	125
Chittagong.	Chittagong	Chittagong	...	2	7	3	12	23	27	25	22	13	6	...	142
		Cox's Bazar	1	1	5	1	9	19	28	19	21	12	6	...	122
	Noakholly	Noakholly	4	7	9	2	13	21	28	29	19	17	5	...	154
	Tipperah	Comillah	5	12	8	5	14	21	23	25	19	12	2	...	146
		Brahmunbariah	3	9	6	7	11	18	24	21	17	12	...	...	128
	Chittagong Hill Tracts	Rangamatee Hill	2	4	8	3	10	21	24	24	22	15	7	...	140
	Hill Tipperah	Hill Tipperah	3	7	6	8	9	20	16	19	18	19	3	...	128
	Behar.														
Patna.	Patna	Patna	4	3	3	1	...	16	14	19	15	5	...	...	80
		Behar	1	6	2	...	1	18	17	19	13	9	...	...	84
		Barh	1	2	3	1	1	13	13	10	9	6	...	...	59
		Dinapore	2	2	2	...	...	17	16	11	13	3	...	...	66
	Gya	Gya	1	3	1	...	1	17	16	15	12	6	...	...	72
		Nowadah	1	3	2	...	3	15	16	16	10	6	...	...	72
		Aurungabad	3	2	3	...	...	12	14	16	10	8	...	...	68
		Jehanabad	2	3	2	...	1	15	16	21	9	7	...	...	76
	Shahabad	Arrah	3	4	3	...	1	18	17	18	14	8	...	...	86
		Sasseram	3	3	2	...	...	22	20	18	13	6	...	...	87
		Buxar	1	2	2	...	...	16	21	24	16	7	...	1	90
		Bhubooah	1	3	2	...	...	16	17	24	16	6	...	...	85
	Tirhoot	Mozufferpore	1	3	2	1	1	16	16	12	14	6	...	...	72
		Durbhunga	1	4	2	3	3	17	15	16	15	7	...	...	83
		Hazeepore	3	3	2	1	...	17	21	21	11	5	...	...	84
		Mudheobannee	3	3	3	2	2	17	17	16	17	7	...	...	87
		Seetamaree	...	2	2	2	4	12	9	15	12	6	...	...	64
		Tajpore	1	2	1	1	1	16	18	14	12	6	...	...	72

TABLE XXIX.—DAYS ON WHICH RAIN WAS MEASURED IN 1874.—(*Contd.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Behar.—(*Contd.*)														
Patna.—(*Contd.*)	Sarun	Chupra	2	2	1	...	...	16	15	20	14	5	...	...	75
		Sewan	1	3	4	1	1	15	11	16	10	4	...	1	67
	Chumparun	Motiharee	...	3	3	1	3	20	12	12	14	6	...	...	74
		Bettiah	1	3	...	...	1	15	19	20	13	6	...	...	78
Bhagulpore.	Monghyr	Monghyr	3	5	3	1	4	18	16	18	14	7	...	...	89
		Begoo Serai	2	3	2	2	1	18	16	18	12	8	...	...	82
		Jamooree	2	5	...	1	1	14	12	16	9	4	...	...	64
	Bhagulpore	Bhagulpore	3	6	1	2	2	21	19	14	17	9	...	...	94
		Soopool	2	4	1	2	2	16	17	16	14	6	...	...	80
		Muddehpoora	1	4	1	2	2	15	14	15	16	7	...	...	77
		Banka	4	6	2	1	1	19	14	16	17	9	...	...	89
		Sonbursa	2	5	...	2	1	21	11	15	12	5	...	...	74
	Purneah	Purneah	2	5	...	2	3	19	23	26	23	9	...	...	112
		Kissengunge	1	5	4	3	5	20	22	18	15	6	...	...	99
		Arrariah	1	4	2	4	5	18	16	23	19	7	...	...	99
	Sonthal Pergunnahs	Nya Doomka	3	5	3	2	3	22	19	26	18	12	...	...	117
		Deoghur	2	4	2	1	2	19	14	17	18	10	...	...	89
		Rajmehal	1	1	1	3	3	8	7	10	12	4	...	...	50
		Godda	2	6	1	...	1	12	15	13	13	8	...	...	76
	Orissa.														
Orissa.	Cuttack	Cuttack	3	3	2	...	5	14	21	21	17	16	2	1	105
		Jajpore	2	5	2	1	10	16	12	17	17	15	2	...	99
		Kendraparah	2	1	1	1	3	7	11	12	12	11	3	...	64
		Jagatsingpore	2	1	1	...	3	12	16	12	6	9	3	...	65
		False Point	2	2	2	...	2	12	15	20	13	13	5	...	86
	Pooree	Pooree	3	3	1	...	3	13	17	19	16	12	3	1	91
		Khoordah	4	2	2	...	4	14	21	22	17	14	2	1	103
	Balasore	Balasore	2	5	4	7	8	13	16	21	14	16	2	...	108
		Bhuddruck	3	6	3	6	3	16	15	15	15	12	2	...	96
		Jellasore	4	4	2	4	1	11	15	17	12	13	3	...	86
		Sorah	2	3	2	3	7	11	13	14	12	9	3	...	79
		Chandbally	1	1	1	...	2	7	8	12	13	14	2	1	62
	Cuttack Tributary Mehals	Sumbulpore	3	1	6	...	4	23	16	21	12	10	1	...	97
	Chutia Nagpore. *South-Western Frontier Agency.*														
	Hazareebagh	Hazareebagh	4	8	2	3	4	27	24	24	22	15	1	...	134
		Pachumba	2	6	3	3	5	20	19	28	20	11	...	...	117
	Lohardugga	Ranchee	1	7	5	2	5	21	19	24	24	11	2	...	121
		Palamow	4	3	2	...	1	16	23	20	17	7	...	...	93
	Singbhoom	Chyebassa	2	6	8	2	5	22	18	26	21	12	2	...	124
	Manbhoom	Purulia	4	5	3	3	6	21	16	22	17	9	2	...	108
		Gobindpore	1	4	2	...	4	20	16	14	14	9	...	...	84
	Assam.														
	Sylhet	Sylhet	4	8	8	21	24	22	20	25	22	12	...	...	166
	Cachar	Silchar	6	12	13	21	23	24	25	28	21	16	3	...	187
		Hylakandy	5	11	11	17	21	23	25	26	20	11	1	...	171
		Koyah	2	11	10	15	14	18	19	22	18	13	2	...	144
	Goalpara	Goalpara	3	9	4	16	25	22	23	20	19	7	...	...	148
		Dhoobree	...	1	1	8	14	17	14	13	14	8	...	...	90

TABLE XXIX.—DAYS ON WHICH RAIN WAS MEASURED IN 1874.—(*Concld.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	Assam.—(*Contd.*)														
	Kamrup	Gauhati	1	7	11	19	26	17	22	18	17	16	...	...	154
		Burpettah	2	7	4	15	24	19	18	18	15	7	1	...	130
	Darrang	Tezpur	2	7	10	18	25	15	16	20	19	9	...	...	141
		Mungledye	2	11	11	14	24	15	19	17	16	9	1	...	139
	Nowgong	Nowgong	2	8	10	8	21	20	20	22	17	10	...	...	138
	Sibsagar	Sibsagar	11	10	15	20	26	22	25	26	22	15	2	1	195
		Golaghat	7	9	13	15	23	21	22	20	19	10	2	...	161
		Jorehat	7	11	16	23	29	25	19	21	21	7	2	3	184
		Nazeerah	9	16	15	19	26	20	24	23	19	18	1	1	191
		Deopanie	7	11	11	15	23	20	22	24	16	11	...	2	162
		Hattipootie	16	14	15	18	26	20	25	23	23	18	1	1	194
		Mazengah	6	11	15	16	24	18	24	24	20	15	2	2	177
		Suntock	6	12	16	18	25	20	25	22	18	15	...	...	177
		Cherideo	11	15	19	18	25	22	22	22	19	18	6	...	197
		Dibrugarh	9	15	18	15	24	20	23	22	20	10	5	1	182
	Luckhimpur	North Luckhimpur	10	10	14	19	26	25	25	24	21	8	5	2	189
		Sadiya	12	15	18	16	26	23	24	18	18	8	5	2	185
	Naga Hills	Samagoodting	3	12	11	15	17	20	22	?	?	?	?	?	?
	Khasi and Jaintia Hills	Shillong	2	5	5	12	12	24	21	24	24	17	3	...	149
		Jowai	4	7	10	11	19	22	19	19	19	12	1	...	143
		Cherrapoonjee	5	7	11	21	28	25	24	29	27	13	3	...	193
	Garo Hills	Tura	4	6	4	11	17	26	26	24	24	20	...	...	162
	Other Provinces.														
	N.-W. Provinces	Benares	...	3	1	...	...	17	23	26	14	6	...	1	91
		Goruckpore	...	2	1	...	1	13	12	14	14	2	...	...	69
		Jhansi	...	...	...	...	...	16	17	16	5	...	...	...	54
		Allahabad	...	...	2	...	...	16	17	24	11	2	...	...	72
		Lucknow	1	2	1	...	...	18	20	22	11	2	...	...	77
		Agra	1	...	1	1	...	6	12	11	2	...	...	...	34
		Ajmere	5	1	1	...	3	9	11	14	...	...	...	...	44
		Bareilly	1	2	3	...	1	13	21	21	11	...	...	...	73
		Meerut	1	1	2	...	...	9	15	11	6	...	...	...	45
		Roorkee	5	4	6	...	7	16	22	19	8	...	...	1	88
	Central India	Jubbulpore	1	1	...	...	5	19	24	25	10	1	...	1	87
		Nagpore	...	3	...	...	4	17	20	16	10	1	...	1	72
		Saugor	2	...	1	...	4	18	18	24	8	...	...	...	75
		Hoshungabad	...	...	...	...	2	13	16	18	7	...	...	...	56
		Chanda	1	4	2	2	5	17	25	20	20	4	2	1	103
		Raipore	3	1	1	...	4	14	20	19	11	4	...	...	77
		Seoni	1	...	...	...	5	18	24	23	18	...	...	1	90
	Berars	Akola	...	...	1	...	2	15	20	11	7	3	1	...	60
		Omraoti	...	...	...	2	3	16	23	18	17	2	...	1	82
	Madras	Vizagapatam	2	...	...	...	5	10	9	12	15	14	3	1	71
		Madras	...	...	...	...	6	13	12	13	20	18	14	8	104
	Ceylon	Jaffna	2	4	...	4	4	2	4	1	6	9	16	13	65
		Trincomallee	10	7	4	2	8	8	9	12	14	13	19	23	129
		Colombo	7	8	8	10	22	20	12	11	11	20	18	14	156
		Galle	11	12	7	10	24	22	21	20	17	24	15	14	197
	Arrakan	Akyab	...	1	3	1	11	23	26	27	24	10	4	...	130
	Andamans	Port Blair	1	...	1	3	29	24	26	26	25	26	13	5	179
	Nicobars	Nancowry	4	4	3	5	14	19	18	19	23	23	11	14	157

TABLE XXX.—AVERAGE MONTHLY AND ANNUAL RAINFALL.

Divisions.	Districts.	Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	BENGAL.															
	Western Districts.															
BURDWAN.	Burdwan	Burdwan ...	15-18	0·54	1·12	1·47	2·13	4·04	10·63	12·54	11·71	8·40	5·70	0·42	0·48	59·21
		Cutwa ...	4-5	0·49	1·72	1·39	1·19	4·26	10·23	9·34	12·90	8·01	4·29	0·05	0·01	53·88
		Culna ...	4-5	0·30	1·48	1·13	1·99	3·90	9·27	10·41	12·21	5·92	4·71	0·19	0·24	51·75
		Bood-bood ...	4-5	0·29	1·28	1·59	1·23	3·11	9·45	11·34	13·00	7·15	5·01	0·19	0·08	53·71
		Raneegunge ...	8	0·33	0·80	0·97	0·98	2·36	9·38	12·94	11·63	8·31	3·55	0·32	...	51·57
		Jehenabad ...	4					4·12	8·63	10·05	12·93	10·45	6·43	...	0·12	
	Bankoora	Bankoora ...	17-19	0·42	0·93	1·59	1·85	3·09	9·55	11·92	10·40	7·75	4·45	0·18	0·07	52·11
	Beerbhoom	Sooree ...	12	0·41	0·92	0·81	0·81	2·48	8·40	13·03	12·34	9·33	4·41	0·13	0·14	53·21
	Midnapore	Midnapore ...	9-11	0·89	0·54	1·79	1·50	5·42	11·34	10·94	10·95	8·91	6·98	0·50	...	59·67
		Tumlook ...	4	0·34	2·27	3·63	2·94	4·06	7·77	12·04	10·07	7·60	7·13	0·05	0·28	58·23
		Gurbetta ...	4			1·89	2·25	2·92	7·42	13·42	9·70	9·34	2·78	0·87	0·14	
		Contai ...	7-8	0·41	1·50	1·07	1·88	4·13	12·54	11·90	12·68	12·89	13·39	1·67	0·17	74·23
	Hooghly	Hooghly ...	10	0·64	1·78	2·38	3·86	5·33	10·77	12·76	12·28	8·54	4·20	0·48	0·17	63·19
		Serampore ...	4				2·88	3·94	9·02	12·11	10·28	7·35	6·29	0·16	0·38	
	Howrah	Howrah ...	6-7	0·42	1·77	3·02	2·42	3·73	13·56	12·14	12·24	10·70	5·43	0·40	0·13	65·96
	Central Districts.															
PRESIDENCY.	24-Pergunnahs	Saugor Island ...	7-8	0·18	0·98	1·28	1·71	4·61	13·28	12·97	14·93	13·45	11·75	0·79	0·07	76·00
		Calcutta ...	32	0·53	0·72	1·22	2·25	5·43	11·80	13·33	14·18	10·36	5·31	0·67	0·24	66·04
		Alipore (Jail) ...	4-5	0·24	1·74	2·04	2·11	4·60	11·81	11·93	11·99	9·11	7·07	0·36	0·12	63·12
		Busseerhaut ...	4-5	0·17	1·16	1·76	2·39	4·33	9·81	11·44	10·75	7·07	4·23	0·48	0·04	53·63
		Baraset ...	4-5	0·23	1·51	1·98	1·99	3·60	9·06	10·78	10·48	7·43	5·39	0·49	0·11	53·05
		Diamond Harbour	4-5	0·21	1·49	2·02	4·05	4·04	10·32	12·88	12·87	10·08	7·99	0·63	0·02	67·10
		Barripore ...	4-5	0·10	1·01	1·21	3·12	6·25	10·35	12·87	13·11	8·58	7·59	1·91	0·01	66·11
		Satkhira ...	4-5	0·17	1·38	2·43	2·64	5·18	11·93	8·15	9·64	7·76	4·47	0·64	0·44	54·83
		Barrackpore ...	4-5	0·28	1·79	1·98	2·12	3·99	12·91	10·78	8·84	6·60	4·02	1·08	0·36	54·75
		Dum-Dum ...	4-5	0·18	1·14	2·13	2·43	5·32	9·14	11·33	9·70	9·01	5·42	0·12	0·16	56·08
	Nuddea	Kishnaghur ...	11-15	0·51	1·11	0·87	3·82	6·93	10·66	9·72	9·43	7·40	4·50	0·31	0·14	55·45
		Bongong ...	5	0·17	1·15	1·72	2·34	4·13	9·91	8·58	11·05	7·06	5·17	0·09	0·32	51·69
		Meherpore ...	4-5	0·28	1·08	1·71	1·93	3·73	9·42	12·02	10·69	7·43	3·37	0·04	...	51·70
		Chooadangah ...	4-5	0·23	1·11	1·31	2·81	6·83	9·09	10·14	10·42	8·54	4·38	0·06	...	55·02
		Kooshtea ...	5	0·26	0·87	1·29	2·93	5·66	9·52	10·29	8·34	9·29	3·96	0·05	0·07	52·53
		Ranaghat ...	4-5	0·71	1·12	0·63	2·70	4·18	10·06	7·57	10·72	6·01	3·54	0·30	0·10	47·64
	Jessore	Jessore ...	13-17	0·35	0·64	1·72	4·09	6·90	12·88	10·44	11·09	9·12	6·03	0·70	0·06	64·02
		Narail ...	4				4·07	8·09	11·35	9·87	11·57	8·45	3·67	0·02	0·20	
		Khoolna ...	4			2·25	3·03	5·65	12·61	11·16	12·00	9·21	4·40	0·15	0·15	
		Jhenidah ...	4				3·28	6·52	15·64	9·61	12·00	8·79	6·24	...	0·12	
		Bagirhat ...	4					6·02	14·68	12·54	10·40	8·58	4·64	0·14	0·22	
		Magoora ...	4					5·62	9·24	8·14	6·70	8·58	4·58	0·19	...	
	Moorshedabad	Berhampore ...	17-19	0·35	0·94	1·07	2·20	3·97	9·51	10·17	9·52	9·45	6·04	0·18	0·09	53·49
		City Moorshedabad	4	0·28	1·21	0·67	0·97	2·88	9·97	8·81	9·37	10·76	5·14	0·04	...	50·10
		Jungypore ...	4	0·29	1·24	0·79	1·59	4·14	9·52	11·32	9·53	10·97	6·21	0·07	0·02	55·69
RAJSHAHYE.	Dinagepore	Dinagepore ...	13-15	0·20	0·73	0·89	2·52	7·28	19·35	16·90	13·71	13·23	6·36	0·16	0·04	81·28
	Maldah	Maldah ...	17-19	0·74	1·41	1·47	1·79	3·19	8·72	10·35	9·12	10·58	4·93	0·20	0·44	53·24
	Rajshahye	Beaulcah ...	13-15	0·17	1·26	1·23	2·10	5·25	10·66	12·23	9·40	11·00	5·64	0·28	0·05	59·27
		Nattore ...	4-5	0·00	1·19	0·61	2·58	5·62	9·87	12·00	10·57	13·00	5·41	0·03	0·02	61·46
	Rungpore	Rungpore ...	13-15	0·36	0·35	0·99	3·24	9·34	22·58	17·86	12·90	12·23	5·30	0·28	0·13	85·56
		Bhowanigunge ...	4	0·27	0·32	1·28	3·80	4·81	15·49	13·84	7·71	14·82	4·91	...	0·18	67·13
		Titalya ...	4-5	0·67	0·35	1·39	3·33	5·78	20·48	25·74	23·30	23·71	6·30	...	...	111·55
	Bogra	Bogra ...	11-14	0·48	1·25	0·81	4·73	8·92	16·31	18·41	12·03	14·72	5·72	1·15	0·10	84·63
	Pubna	Pubna ...	8-9	0·34	1·19	1·43	5·52	7·87	12·52	11·88	11·02	12·03	4·91	0·49	0·02	69·20
		Serajgunge ...	4-5	0·42	0·92	0·92	3·76	7·00	10·07	10·79	8·79	11·22	3·79	0·50	0·04	58·22

TABLE XXX.—AVERAGE MONTHLY AND ANNUAL RAINFALL.—(*Continued.*)

Divisions.	Districts.	Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	BENGAL.—(*Contd.*)															
	Central Districts.—(Continued.)															
Cooch Behar.	Darjeeling ...	Darjeeling ...	12-15	0·50	1·27	1·60	4·38	6·42	26·53	28·19	25·97	17·73	8·45	0·20	0·10	121·34
	Julpigoree ...	Julpigoree ...	5-6	0·50	0·39	2·03	4·66	8·59	29·61	25·86	24·95	27·31	7·09	0·02	0·02	131·03
		Buxa ...	6	0·50	1·00	1·57	7·33	19·72	50·61	61·30	45·68	37·34	12·76	0·51	0·49	238·90
		Bodah ...	4-5	0·82	0·40	0·82	3·39	5·99	16·72	16·08	16·44	19·78	7·52	...	0·11	88·07
	Cooch Behar ...	Cooch Behar ...	4										5·58	0·07	...	
	Eastern Districts.															
Dacca.	Dacca ...	Dacca ...	14-15	0·56	0·78	1·56	6·61	9·71	12·90	12·93	12·05	8·67	5·35	0·76	0·04	71·92
	Furreedpore ...	Furreedpore ...	12	0·58	1·46	2·04	6·60	10·58	13·69	11·90	11·42	9·62	4·52	0·46	0·01	72·97
		Madaripore ...	4-5	0·47	1·11	2·40	4·28	12·47	11·76	13·40	10·63	8·85	6·01	0·09	0·03	71·50
		Goalundo ...	4							9·20	8·69	9·19	4·43	0·01	0·04	
	Backergunge ...	Burrisal ...	6-7	0·47	1·23	1·44	2·89	7·03	11·50	15·24	13·14	11·01	5·27	0·29	0·23	69·74
		Perozepore ...	4-5	0·27	1·33	1·58	2·04	6·28	13·77	13·01	11·77	10·03	5·53	0·46	0·11	66·18
		Dowlatkhan ...	4-5	0·23	1·22	1·31	2·02	8·03	16·61	21·94	21·02	11·96	7·26	0·59	0·20	93·94
	Mymensingh ...	Mymensingh ...	10-11	0·31	1·36	1·33	7·43	12·04	22·45	18·43	14·61	13·48	5·04	0·10	0·06	96·64
		Jamalpore ...	4-5	0·25	1·58	0·72	4·12	7·75	14·96	13·50	12·92	15·07	4·32	0·03	0·21	75·43
		Atia ...	4-5	0·17	1·27	2·19	4·16	5·98	16·46	10·43	9·68	12·82	6·18	0·04	0·04	69·42
		Kishoregunge ...	4-5	0·56	1·27	2·93	4·67	9·44	19·31	15·16	11·07	10·76	7·03	0·18	0·03	89·51
Chittagong.	Chittagong ...	Chittagong ...	15-17	0·28	1·31	1·82	4·84	9·05	22·14	21·33	20·91	13·09	6·35	1·68	0·47	103·27
		Cox's Bazar ...	4-5	0·34	0·21	1·75	3·00	13·29	35·05	37·77	23·52	14·97	10·31	0·68	0·33	141·72
	Noakholly ...	Noakholly ...	16-18	0·35	0·79	1·91	4·21	9·69	21·34	17·32	20·72	15·95	8·58	1·42	0·12	102·90
	Tipperah ...	Comillah ...	14-15	0·60	0·95	2·32	7·60	11·53	18·44	16·69	14·31	10·12	6·64	1·43	0·11	90·74
		Brahmunbariah ...	4-5	0·69	1·43	6·03	5·03	11·72	13·25	11·68	10·73	12·30	5·32	0·02	0·09	75·29
	Chittagong Hill Tracts ...	Rangamatee Hill	6	0·18	0·94	1·86	5·32	10·82	15·76	17·00	15·81	11·46	9·42	0·85	0·29	89·71
	BEHAR.															
Patna.	Patna ...	Patna ...	12-13	0·59	0·71	0·31	0·41	0·97	6·66	10·97	7·46	7·26	2·54	0·07	0·06	38·01
		Behar ...	4-5	0·50	0·81	0·23	0·36	1·57	5·56	14·68	11·60	6·24	3·25	0·01	0·07	44·83
		Barh ...	4-5	0·72	0·42	0·53	0·26	1·32	4·28	10·67	9·51	8·22	3·14	0·02	0·04	39·13
		Dinapore ...	4-5	0·78	0·12	0·20	0·41	0·80	7·64	11·25	9·67	9·17	2·73	...	0·08	42·85
		Dehree ...	4	0·27	0·47	0·10	0·11	0·35	5·70	11·80	12·36	7·23	1·51	...	0·22	40·12
	Gya ...	Gya ...	11-13	0·81	0·63	0·55	0·50	0·73	6·53	12·49	10·52	6·83	2·89	0·04	0·07	42·59
		Nowadah ...	4-5	0·23	0·90	0·55	0·39	1·38	7·17	12·92	13·25	8·57	2·63	0·03	0·21	48·73
		Aurungabad ...	4-5	0·84	0·47	0·32	0·49	0·70	5·05	13·12	13·08	7·17	2·75	...	0·29	44·28
	Shahabad ...	Arrah ...	16-19	0·89	0·56	0·63	0·76	1·22	7·63	13·87	9·94	10·18	2·70	0·21	0·06	48·70
		Sasseram ...	4-5	0·32	0·59	0·17	0·12	0·62	6·69	14·88	11·48	6·48	5·17	...	0·12	46·64
		Buxar ...	6-7	0·71	0·26	0·39	0·21	0·65	5·86	11·78	10·69	8·35	3·58	...	0·19	42·67
		Bhubooah ...	4-5	0·46	0·36	1·68	0·16	0·98	7·35	15·36	14·50	7·73	3·80	...	0·16	52·54
	Tirhoot ...	Mozufferpore ...	14-16	0·82	0·51	0·65	0·50	1·84	6·60	11·06	9·39	8·58	3·39	0·03	...	43·37
		Durbhunga ...	4	0·30	0·26	0·51	0·79	1·18	8·02	16·11	9·00	12·14	1·79	...	0·10	50·20
		Hazeepore ...	4						6·22	11·69	9·97	10·80	2·46	...	0·16	
		Mudhoobanee ...	4				1·35	1·75	8·40	11·36	7·83	14·49	2·19	...	0·01	
		Seetamarhee ...	4	0·29	0·32	1·49	1·33	1·84	10·32	12·30	8·46	12·65	1·89	...	0·12	51·01
		Tajpore ...	4	1·06	0·20	0·60	0·79	1·19	7·33	11·60	7·32	10·20	1·41	...	0·03	41·73
	Sarun ...	Chuprah ...	16-19	0·72	0·48	0·53	0·52	1·13	6·54	9·82	8·57	7·13	2·49	0·02	...	37·95
		Sewan ...	4-5	0·39	0·89	0·35	0·23	1·48	9·60	12·94	11·24	13·17	3·47	...	0·15	53·96
	Chumparun ...	Motiharee ...	11-13	0·30	0·32	0·96	0·38	1·76	8·92	11·04	10·53	8·35	3·07	...	0·10	45·73
		Bettiah ...	4							13·87	11·22	12·63	1·03	...	0·09	

TABLE XXX.—AVERAGE MONTHLY AND ANNUAL RAINFALL.—(*Continued.*)

Divisions.	Districts.	Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	BEHAR.—(*Contd.*)															
BHAGULPORE.	Monghyr	Monghyr ...	18-19	0·42	0·63	0·53	0·42	1·54	6·26	11·11	8·19	7·97	3·71	0·05	...	40·83
		Begoosarai ...	4-5	0·66	0·85	0·26	0·53	1·90	5·08	10·81	9·45	7·99	4·19	0·02	0·01	41·66
		Jamooe ...	4-5		0·94	0·48	1·26	1·94	6·86	13·55	10·54	7·67	2·50	....	0·02	
	Bhagulpore	Bhagulpore ...	18-19	0·47	0·72	0·41	1·03	2·47	8·52	11·23	10·07	7·98	4·71	0·03	0·08	47·72
		Soopool ...	4									12·63	2·72	...	0·05	
		Muddehpoora ...	4-5	0·15	0·70	0·37	1·58	2·22	8·76	11·92	10·36	12·82	5·05	...	0·02	54·85
		Banka ...	4-5	0·54	0·71	0·45	0·60	2·91	8·63	11·29	7·68	10·58	3·33	...	0·03	46·78
	Purneah	Purneah ...	4-5	0·39	0·65	0·31	2·45	1·57	12·17	15·64	13·35	15·94	4·41	...	0·07	66·95
		Kissengunge ...	4							21·18	14·84	14·34	3·20	...	0·17	
		Arrariah ...	4							16·02	13·28	16·84	3·12	...	...	
	Sonthal Pergunnahs.	Nya Doomka ...	4	0·09	0·94	0·97	1·02	3·36	8·36	14·39	12·27	10·75	3·27	0·01	0·04	55·97
		Deoghur ...	5-6	0·18	0·96	0·81	1·03	2·28	0·92	12·51	9·65	8·96	5·97	...	0·02	40·17
		Rajmehal ...	4-5		0·41	0·62	0·91	1·55	8·14	10·56	7·94	14·12	3·48	0·40	0·04	
ORISSA.	ORISSA.															
	Cuttack	Cuttack ...	14-17	0·51	0·56	1·10	1·55	1·93	9·90	11·50	11·21	9·04	6·35	1·10	0·56	55·31
		Jajpore ...	4	0·22	0·67	0·50	1·84	3·30	12·20	16·11	10·14	9·28	7·62	0·66	0·46	62·94
		Kendraparah ...	4	0·32	0·30	0·45	1·71	3·82	10·27	10·62	12·17	6·70	8·62	1·08	0·02	56·08
		Jagatsingpore ...	4	0·31	1·02	1·43	1·59	2·36	11·17	10·57	8·65	7·57	8·18			
		False Point ...	8	0·22	0·73	1·42	2·26	2·71	11·97	13·65	12·75	10·95	14·04	3·87	0·16	74·79
	Pooree	Pooree ...	17-18	0·12	1·21	0·65	1·43	2·27	8·60	9·35	12·31	9·15	8·18	1·98	0·76	56·01
		Khoordah ...	4-5	0·13	0·74	0·80	1·60	1·99	12·93	13·41	12·96	9·78	9·09	2·26	0·16	65·76
	Balasore	Balasore ...	13-15	0·90	1·29	1·66	2·69	4·19	11·66	9·90	11·89	12·94	7·71	0·84	0·13	65·20
		Bhuddruck ...	4-5	0·45	1·40	0·47	2·01	4·52	7·80	11·28	9·50	8·56	4·57	1·48	0·03	52·02
	Cuttack Tributary Mehals	Sumbulpore ...	10-13	0·53	0·46	0·62	0·29	1·02	10·51	14·88	12·68	7·12	4·03	0·66	0·09	52·29
	CHUTIA NAGPORE.															
	South-Western Frontier Agency.															
	Hazareebagh	Hazareebagh ...	9-10	0·31	0·71	0·70	0·44	1·14	8·12	14·32	14·13	8·57	3·69	0·21	0·06	52·40
		Pachumba ...	4-5	0·10	0·89	0·76	1·65	2·08	7·76	13·24	11·25	8·65	3·49	0·05	0·06	49·92
	Lohardugga	Ranchee ...	17-19	0·85	1·65	1·56	0·59	1·46	7·03	10·31	10·31	7·39	3·55	0·12	0·69	44·61
		Palamow ...	4-5	0·55	0·61	0·66	0·26	0·56	8·93	14·87	12·21	8·92	2·79	0·09	0·29	50·67
	Singbhoom	Chyebassa ...	5-6	0·52	0·92	1·58	1·18	2·43	7·48	11·99	11·43	10·28	4·13	0·19	0·16	52·29
	Manbhoom	Purulia ...	10-13	0·42	0·79	0·83	0·95	1·25	8·79	9·37	10·85	7·08	4·33	0·09	0·18	44·93
		Gobindpore ...	4							15·76	13·14	8·53	4·31	...	...	
	ASSAM.															
	Sylhet	Sylhet ...	15-19	0·27	1·63	4·93	14·56	22·15	31·28	25·58	24·77	17·58	9·08	0·60	0·12	152·55
	Cachar	Silchar ...	14-16	0·64	3·16	6·31	11·69	14·79	18·70	22·94	16·52	14·30	8·15	0·79	0·56	118·51
		Hylakandy ...	4	1·46	2·53	6·72	11·66	13·90	15·11	15·87	12·76	11·76	7·54	0·69	0·13	99·53
		Koyah ...	4	0·53	1·68	5·37	14·55	16·12	15·25	16·11	19·29	10·65	7·50	0·17	0·25	107·58
	Goalpara	Goalpara ...	10-11	0·34	0·59	1·86	5·82	13·22	25·28	19·69	11·37	12·44	5·43	0·27	0·12	96·43
		Dhoobree ...	4-5				7·07	18·81	27·26	18·38	9·20	12·57	4·91	...	0·13	
	Kamrup	Gauhati ...	13-15	0·61	1·29	1·81	6·50	10·57	12·78	11·71	11·03	7·90	3·33	0·31	0·08	67·82
		Burpetta ...	4-5	0·51	0·75	2·84	8·40	14·61	16·14	22·45	12·22	12·91	5·85	0·70	...	95·78
	Darrang	Tezpur ...	13-15	0·51	0·99	1·47	6·92	10·85	13·85	15·19	13·18	8·79	3·14	0·74	0·30	76·23
		Mungledye ...	4		1·57	2·85	6·69	12·69	11·89	8·48	9·94	8·09	2·62	0·42	0·13	
	Nowgong	Nowgong ...	13-15	1·12	1·48	2·89	6·29	11·77	12·27	10·77	15·99	12·21	4·34	0·50	0·25	85·88
	Sibsagar	Sibsagar ...	15-17	1·11	2·53	4·28	10·17	12·15	15·54	15·97	15·57	10·90	4·76	1·33	0·60	94·91
		Golaghat ...	4	0·70	2·31	4·07	7·19	11·07	9·76	17·37	15·42	9·70	3·33	0·35	0·11	81·38
		Jorehaut ...	4			4·40	8·44	11·55	10·09	17·31	15·54	8·57	3·49	1·05	0·49	
		Nazeerah ...	13-14	1·31	2·71	3·63	9·24	9·60	13·82	15·36	10·43	10·34	5·08	0·83	0·62	88·97

TABLE XXX.—AVERAGE MONTHLY AND ANNUAL RAINFALL.—(*Concluded.*)

Divisions.	Districts.	Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Assam.—(*Contd.*)																
	Luckhimpur	Dibrugarh	5	0·96	4·11	6·44	8·69	12·88	22·12	20·61	17·75	14·85	4·66	1·94	0·30	115·31
		Sadiya	4-5	1·97	4·39	4·62	9·46	13·31	12·78	18·90	18·19	13·91	3·39	2·13	0·52	103·57
	Naga Hills	Samagoodting	5-7	0·59	1·18	1·88	3·41	4·44	8·36	7·79	9·53	6·51	4·05	0·11	0·12	47·97
	Khasi and Jaintia Hills.	Shillong	7-8	0·25	0·80	1·40	3·63	8·98	15·53	16·46	11·80	17·38	5·76	1·36	0·06	83·41
		Jowai	4-5	0·29	2·21	2·43	5·74	14·13	25·05	30·47	13·13	22·21	8·36	0·28	...	124·30
		Cherrapoonjee	7-15	0·54	3·26	6·02	32·05	60·13	108·84	141·32	71·91	58·00	15·43	1·70	0·08	499·28
	Garo Hills	Tura	4-5	0·64	1·63	1·60	5·82	12·19	21·30	26·35	13·70	24·28	9·83	0·09	0·09	117·52
Other Provinces.																
	N.-W. Provinces	Benares	12-13	0·63	0·30	0·30	0·22	0·50	5·07	12·93	8·91	7·99	1·75	0·01	0·11	38·78
		Goruckpore	9	0·64	0·49	0·33	0·20	1·55	8·26	17·57	11·91	9·78	3·50	....	0·16	54·39
		Jhansi	8-11	1·42	0·20	0·28	0·03	0·34	4·00	12·83	9·81	4·88	1·14	...	0·23	35·16
		Lucknow	9	1·19	0·15	0·23	0·22	0·69	5·22	15·50	10·36	10·19	1·46	...	0·39	45·60
		Agra	12-13	0·58	0·24	0·39	0·19	0·59	2·58	10·04	8·26	3·73	0·41	...	0·23	27·24
		Ajmere	10-11	0·86	0·16	0·36	0·15	0·45	2·15	6·27	8·75	2·76	0·12	0·09	0·30	22·42
		Bareilly	8-9	1·01	1·07	0·78	0·40	0·64	6·35	15·28	8·09	9·11	0·82	...	0·43	43·98
		Roorkee	12	1·67	2·19	1·30	0·39	0·86	5·24	12·41	10·99	5·23	0·50	0·24	0·66	41·68
	Central India	Jubbulpore	14	0·46	0·48	0·57	0·11	0·24	9·07	20·07	14·74	8·33	1·09	1·00	0·32	56·48
		Nagpore	26	0·59	0·57	0·93	0·37	0·63	9·08	11·49	9·12	8·38	2·53	0·57	0·43	44·69
		Saugor	18	0·40	0·60	0·26	0·17	0·54	9·10	16·46	12·94	8·75	0·87	0·27	0·71	51·13
		Hoshungabad	14	0·31	0·15	0·17	0·04	0·51	5·13	14·69	13·31	10·56	0·66	0·52	0·22	46·27
		Chanda	9	0·11	0·25	1·11	0·49	0·60	7·79	15·05	9·86	9·63	1·50	0·19	0·16	46·74
		Raipore	9	0·34	0·32	0·69	0·73	0·50	9·38	15·59	13·37	7·71	2·15	0·41	0·14	51·33
		Seoni	18	0·33	0·81	0·59	0·45	0·60	9·26	14·68	10·90	7·69	1·27	0·41	0·64	47·63
	Madras	Vizagapatam	4-5	0·12	0·27	0·72	1·95	2·40	4·38	5·90	6·18	8·08	11·09	2·42	1·80	45·31
		Madras	7	1·66	0·95	0·42	0·42	1·97	4·34	5·71	4·47	6·12	12·61	13·77	3·90	56·34
	Ceylon	Jaffna	4	1·33	2·64	1·78	3·87	2·70	1·63	0·63	1·01	3·26	6·06	17·39	7·00	48·70
		Trincomalle	4-5	8·01	3·31	1·23	2·55	2·40	0·48	2·88	3·18	5·74	7·82	13·27	9·42	60·29
		Colombo	5	2·26	2·38	7·09	7·45	11·83	4·63	2 81	2·65	3·50	13·71	12·83	4·39	75·53
		Galle	5	4·06	3·99	3·02	6·86	8·39	6·87	3·09	3·63	5·41	10·17	12·24	6·69	75·62
	Arrakan	Akyab	14-16	0·35	0·25	0·57	1·40	10·40	58·78	52·90	36·55	24·82	13·80	4·87	0·21	204·90
	Andamans	Port Blair	7	0·48	2·31	0·19	1·92	17·59	18·49	18·78	17·46	18·31	11·81	6·98	1·76	116·08

TABLE XXXI.—COMPARISON OF THE RAINFALL OF 1874 WITH THE AVERAGES OF TABLE XXX.

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	Bengal.														
	Western Districts.														
	Burdwan	Burdwan	+ 0·06	+ 2·95	+ 0·98	— 0·36	— 0·09	+ 7·52	— 6·04	— 5·45	— 1·35	+ 4·91	— 0·42	— 0·48	+ 2·23
		Cutwa	+ 1·34	+ 2·98	— 1·34	— 0·79	+ 2·34	+ 1·35	— 6·50	— 8·51	+ 2·02	+ 3·57	— 0·05	— 0·01	— 3·60
		Culna	+ 0·87	+ 2·82	— 0·42	— 1·08	— 0·68	— 0·90	— 3·27	— 3·28	— 1·13	+ 1·84	+ 0·37	— 0·24	— 5·10
		Bood-Bood	+ 0·86	+ 2·34	— 0·71	— 0·72	— 0·32	+ 1·19	— 1·92	— 4·58	+ 0·94	+ 6·36	+ 0·38	— 0·08	+ 3·74
		Ranegunge	+ 0·99	+ 2·38	— 0·69	— 0·95	+ 0·52	— 0·63	— 7·72	— 3·16	— 4·20	+ 1·59	+ 0·13	— 0	—11·74
		Jehanabad					— 0·89	— 1·13	— 5·34	— 6·69	+ 2·19	+ 1·66	0	— 0·12	
	Bankoora	Bankoora	+ 1·03	+ 1·91	— 0·85	— 1·78	— 0·24	+ 2·09	— 4·57	+ 1·74	— 2·70	+ 1·42	— 0·18	— 0·07	— 2·20
	Beerbhoom	Sooree	+ 0·12	+ 2·88	+ 0·52	— 0·28	— 0·42	+ 5·88	— 5·85	— 1·47	+12·30	+ 2·93	+ 0·12	— 0·14	+16·50
Burdwan ...		Midnapore	+ 0·79	+ 1·98	— 0·79	— 0·68	— 4·17	— 4·30	— 5·11	— 0·77	— 1·82	+ 8·31	+ 1·14	0	— 5·42
	Midnapore...	Tumlook	+ 0·41	+ 3·37	— 1·22	— 2·34	— 2·15	— 0·31	— 4·86	+ 4·76	— 2·18	+ 3·88	+ 0·10	— 0·28	— 0·82
		Gurbetta			+ 0·19	— 1·30	— 1·40	+ 3·41	— 4·00	— 3·06	+ 3·96	— 0·05	+ 2·53	— 0·14	
		Contai	+ 0·58	+ 4·49	— 0·24	— 0·83	— 0·53	— 1·38	+ 0·47	+ 4·86	+ 2·91	+ 8·86	— 0·62	— 0·17	+18·40
	Hooghly	Hooghly	+ 0·20	+ 2·28	— 1·78	— 3·50	— 0·11	— 7·08	— 6·39	— 8·20	— 2·11	+ 4·14	— 0·10	— 0·17	—22·82
		Serampore				— 1·46	— 2·58	— 1·50	— 5·22	— 0·89	+ 2·63	+ 5·69	+ 0·37	— 0·38	
	Howrah	Howrah	+ 0·13	+ 1·72	— 2·16	— 2·05	— 1·91	— 8·99	— 5·78	— 2·78	— 0·99	+ 8·11	+ 0·10	— 0·13	—14·73
	Central Districts.														
	24-Pergunnahs	Saugor Island	+ 0·86	+ 2·46	— 1·18	— 0·09	— 0·96	+ 1·20	— 4·00	+ 2·01	— 5·89	+ 2·70	— 0·35	— 0·07	— 3·91
		Calcutta	+ 0·41	+ 3·95	+ 0·72	— 1·05	— 4·27	— 4·91	— 4·44	— 3·99	+ 2·31	+ 8·40	— 0·55	— 0·24	— 4·56
		Alipore (Jail)	+ 0·71	+ 2·39	— 0·18	— 1·79	— 2·76	— 6·71	— 3·55	— 0·87	+ 4·71	+ 5·95	— 0·27	— 0·12	— 2·49
		Busseerhaut	+ 0·53	+ 0·33	— 1·14	— 1·04	— 1·15	— 5·79	— 2·27	— 0·65	— 3·40	+ 3·92	+ 1·10	— 0·04	— 9·60
		Baraset	+ 0·38	+ 2·17	— 0·57	+ 0·35	— 1·26	— 3·81	+ 0·26	— 4·43	— 0·07	+ 5·53	+ 0·02	— 0·11	— 1·54
		Diamond Harbour	+ 0·19	+ 1·85	— 1·60	— 2·48	— 2·02	— 2·03	— 3·11	+ 1·51	+ 0·33	+ 1·66	— 0·40	— 0·02	— 6·12
		Barripore...	+ 0·31	+ 0·95	— 0·83	— 2·02	— 3·77	— 1·98	— 4·00	— 1·84	+ 1·19	+ 2·95	+ 1·77	— 0·01	— 7·28
		Satkhira	+ 0·17	+ 1·43	— 2·01	— 1·33	— 2·67	— 5·50	— 0·03	— 4·36	+ 0·87	+ 1·45	— 0·05	— 0·44	—12·47
		Barrackpore	+ 0·07	+ 2·03	— 1·19	— 1·47	— 1·88	— 4·17	— 4·45	— 0·57	+ 2·96	+ 7·88	— 0·07	— 0·36	— 0·57
		Dum-Dum	+ 0·45	+ 1·23	— 1·61	— 1·67	— 2·01	— 1·86	— 5·45	— 1·29	+ 1·09	+ 4·51	+ 0·38	— 0·16	— 6·99

Presidency	Nuddea	Kishnaghur	+ 0·76	+ 3·55	+ 0·23	— 3·12	— 1·37	+ 0·99	— 4·08	— 5·53	+ 3·02	— 0·86	+ 0·17	— 0·14	— 6·33
		Bongong	+ 0·26	+ 3·37	— 1·03	— 0·60	— 1·73	+ 0·23	— 3·64	— 7·34	— 2·57	— 0·99	+ 0·07	— 0·32	—14·29
		Meherpore	+ 0·25	+ 2·74	+ 1·58	+ 0·66	+ 0·63	+ 0·22	— 8·18	— 3·35	+ 0·65	+ 1·56	— 0·04	0	— 3·28
		Chooadangah	+ 0·60	+ 3·23	+ 0·69	— 0·22	+ 0·47	— 0·85	— 6·06	— 5·87	+ 0·88	+ 3·35	— 0·06	0	— 3·84
		Kooshtea	+ 0·79	+ 1·85	+ 0·16	+ 1·11	+ 0·29	+ 0·20	— 4·85	— 3·53	+ 2·16	+ 0·02	+ 0·08	— 0·07	— 1·79
		Ranaghat	+ 2·15	+ 2·16	— 0·03	— 1·02	— 0·18	— 1·42	— 3·53	— 1·58	+ 1·32	+ 1·08	+ 0·02	— 0·10	— 1·13
	Jessore	Jessore	+ 1·87	+ 1·71	— 0·11	— 3·25	— 1·02	— 2·43	— 7·02	— 0·63	— 0·29	+ 0·79	— 0·61	— 0·06	—11·05
		Narail				— 2·17	— 2·53	+ 2·07	— 5·13	— 5·30	+ 1·38	+ 0·74	+ 0·06	— 0·20	
		Khoolnah			— 1·61	— 1·49	— 1·82	— 3·31	— 2·66	— 4·65	+ 0·54	+ 2·97	+ 0·25	— 0·15	
		Jhenidah				+ 0·58	— 0·19	— 2·26	— 7·08	— 7·30	+ 0·88	+ 0·11	+ 0·02	— 0·12	
		Bagirhat					— 3·25	+ 0·35	— 3·83	— 5·87	+ 0·08	+ 3·11	+ 0·17	— 0·22	
		Magoorah					+ 2·95	— 3·03	— 2·56	— 2·97	+ 3·58	+ 0·52	— 0·09	0	
	Moorshedabad	Berhampore	+ 0·75	+ 0·99	— 0·85	+ 0·40	0	+ 0·04	— 4·07	— 6·56	+ 1·80	+ 3·99	— 0·18	— 0·09	— 3·78
		City Moorshedabad	+ 0·60	+ 0·85	— 0·54	+ 0·22	+ 1·13	+ 3·60	— 2·51	— 4·36	— 1·64	+ 5·45	— 0·04	0	+ 2·76
		Jungipore	— 0·03	+ 0·53	+ 0·65	+ 0·34	— 0·89	+ 1·42	— 2·09	— 0·95	+ 5·33	+ 7·37	— 0·07	— 0·02	+11·59
	Dinagepore	Dinagepore	— 0·07	+ 1·09	+ 0·11	+ 0·54	— 3·43	— 5·42	+ 1·01	— 7·65	+ 4·50	+ 7·23	— 0·16	— 0·04	— 1·99
	Maldah	Maldah	— 0·19	— 0·16	+ 0·08	+ 0·82	— 0·10	+ 0·18	+ 1·55	— 4·42	+12·26	+ 6·14	— 0·20	— 0·44	+15·52
Rajshahye	Rajshahye	Beauleah	+ 0·28	+ 1·28	— 0·99	+ 0·63	+ 1·57	— 4·42	— 6·30	— 3·68	+ 5·39	+ 3·34	— 0·28	— 0·05	— 3·23
		Nattore	+ 1·31	+ 1·17	— 0·11	+ 0·81	+ 2·77	+ 5·30	— 5·05	+ 0·32	+ 5·66	+ 2·38	— 0·03	— 0·02	+14·51
	Rungpore	Rungpore	+ 3·44	+ 1·20	+ 0·41	+ 1·06	— 0·61	— 3·78	+ 1·90	— 9·26	+ 6·12	+ 8·94	— 0·28	— 0·13	+ 9·01
		Bhowanigunge	+ 0·83	+ 0·66	— 0·36	— 1·79	+ 3·69	— 1·83	— 3·88	— 1·00	+ 4·32	+ 6·32	0	— 0·18	+ 6·78
		Titalya	+ 0·53	+ 0·60	— 0·66	+ 0·59	+ 3·56	+ 7·07	—10·02	— 8·03	+16·05	+ 2·54	0	0	+12·23
	Bogra	Bogra	+ 2·01	+ 4·41	— 0·71	+ 2·17	— 0·91	+ 0·04	— 7·58	— 2·33	+ 1·78	+ 3·56	— 1·15	— 0·10	+ 1·19
	Pubna	Pubna	+ 0·21	+ 0·70	+ 0·23	— 0·30	+ 2·70	— 3·94	— 8·71	— 2·91	— 1·19	— 0·93	— 0·36	— 0·02	—14·52
		Serajgunge	+ 1·08	— 0·15	— 0·47	+ 3·89	+ 1·63	— 1·11	— 5·40	— 3·89	+ 2·72	+ 0·46	— 0·50	— 0·04	— 1·78
Cooch Behar	Darjeeling	Darjeeling	— 0·50	— 0·27	— 0·78	+ 2·57	— 3·12	+ 2·84	—13·48	— 3·87	+ 8·35	+12·14	— 0·20	— 0·02	+ 3·66
	Julpigoree	Julpigoree	+ 0·68	+ 0·39	— 1·07	— 1·12	+ 3·15	— 4·02	— 4·80	— 7·68	+29·18	+ 2·48	— 0·02	— 0·02	+16·55
		Buxa	— 0·04	+ 0·31	+ 0·48	+ 1·23	— 1·61	+ 3·65	—13·17	— 6·33	+ 8·45	+ 1·00	— 0·48	— 0·49	— 7·00
		Bodah	+ 0·48	+ 0·58	+ 0·33	+ 0·50	+ 2·39	+11·32	+ 5·18	+ 3·09	+10·02	+ 5·27	0	— 0·11	+39·05
	Cooch Behar	Cooch Behar										+ 4·46	— 0·07	0	

TABLE XXXI.—COMPARISON OF THE RAINFALL OF 1874 WITH THE AVERAGES OF TABLE XXX.—(*Continued.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	Bengal.														
	Eastern Districts.														
	Dacca	Dacca	+ 0·32	+ 1·10	+ 2·51	— 3·52	+ 3·33	— 6·50	— 6·75	— 6·97	— 1·08	— 1·37	— 0·76	— 0·04	—19·73
	Furreedpore	Furreedpore	+ 0·58	+ 2·61	+ 2·30	— 4·11	+ 3·55	— 6·36	— 7·56	— 6·12	+11·51	— 2·11	— 0·25	— 0·01	— 5·97
		Madaripore	+ 0·67	+ 0·47	+ 1·27	— 2·84	+ 1·09	— 1·52	— 2·34	— 5·43	+ 2·48	+ 2·10	+ 0·01	— 0·03	— 3·56
		Goalundo							— 5·18	— 3·03	+ 5·04	— 1·36	— 0·01	— 0·04	
Dacca ...	Backergunge	Burrisal	+ 0·54	+ 2·44	— 1·09	— 1·87	— 2·84	+ 4·15	+ 1·97	— 9·04	+ 0·04	+ 4·34	— 0·11	— 0·23	— 1·70
		Perozepore	+ 0·43	+ 0·29	— 0·82	— 1·36	— 3·49	— 2·05	— 3·29	— 7·85	+ 3·42	+ 4·11	+ 0·39	— 0·11	—10·33
		Dowlatkhan	+ 0·47	+ 2·03	— 0·36	— 0·07	— 1·49	— 0·59	— 3·45	— 4·62	— 4·61	+ 1·05	+ 0·01	— 0·20	— 9·45
	Mymensingh	Mymensingh	+ 0·83	+ 2·48	+ 1·44	— 1·10	— 3·46	— 7·02	— 7·83	— 6·35	— 0·49	— 1·55	— 0·10	— 0·06	—23·21
		Jamalpore	+ 0·75	+ 2·29	— 0·42	+ 0·14	— 3·04	+ 0·19	— 7·03	— 3·93	— 2·53	+ 3·97	— 0·03	— 0·31	— 9·94
		Atia	+ 0·26	+ 1·78	— 1·11	+ 2·31	— 1·33	— 9·32	— 5·92	— 3·08	+ 1·83	— 0·94	+ 0·11	— 0·04	—15·45
		Kishoregunge	+ 1·47	+ 2·27	+ 4·54	+ 0·58	— 3·79	— 9·04	— 4·59	— 6·70	— 3·13	— 1·12	+ 0·22	— 0·63	—19·02
	Chittagong	Chittagong	— 0·28	+ 1·46	+ 0·34	— 4·25	+ 8·02	— 6·26	— 7·34	—14·35	+ 2·70	+ 0·17	+ 0·08	— 0·47	—20·18
		Cox's Bazar	— 0·29	0	— 0·43	— 2·75	— 1·99	— 5·87	—13·17	—10·55	— 2·80	+ 0·12	+ 2·22	— 0·33	—35·84
Chittagong	Noakholly	Noakholly	— 0·11	+ 2·35	+ 0·67	— 3·96	+ 5·05	— 1·56	— 3·85	+ 0·35	+ 2·20	+ 2·22	— 0·58	— 0·12	+ 2·66
	Tipperah	Comillah	+ 0·50	+ 0·94	+ 1·07	— 5·36	+ 4·41	— 8·74	— 3·56	— 7·73	— 0·32	+ 1·76	— 1·24	— 0·11	—18·38
		Brahmunbariah...	+ 0·28	+ 3·29	— 3·59	— 0·84	— 3·33	— 7·66	— 3·60	— 5·84	— 4·76	+ 0·50	— 0·02	— 0·09	—25·66
	Chittagong Hill Tracts ...	Rangamatee Hill	+ 0·02	+ 1·13	+ 1·28	— 3·03	+ 3·17	— 0·81	— 7·67	— 9·08	+ 2·12	+ 0·23	+ 3·22	— 0·29	—10·61
	Behar.														
	Patna	Patna	— 0·13	— 0·13	+ 0·06	— 0·04	— 0·97	+ 4·00	+ 4·03	— 2·17	+ 4·72	+ 2·43	— 0·07	— 0·06	+11·67
		Behar	— 0·05	+ 1·12	+ 0·04	— 0·36	— 1·35	+ 4·10	— 3·20	— 2·54	+ 1·73	+ 2·67	— 0·01	— 0·07	+ 2·08
		Barh	— 0·43	+ 0·63	+ 0·84	— 0·15	— 1·25	+ 4·32	— 4·67	— 0·51	+ 3·24	+ 1·44	— 0·02	— 0·04	+ 3·40
		Dinapore	— 0·33	+ 0·20	+ 0·25	— 0·41	— 0·80	+ 5·86	+ 2·30	— 1·17	+ 2·08	— 0·73	0	— 0·08	+ 7·17
		Dehree	+ 0·74	— 0·40	+ 0·07	— 0·11	— 0·29	+ 8·75	— 6·65	+ 1·19	+ 3·63	+ 4·02	0	— 0·22	+10·73
	Gya	Gya	+ 0·46	+ 0·63	— 0·48	— 0·50	— 0·66	+ 5·05	— 4·39	+ 4·61	— 0·73	— 0·57	— 0·04	— 0·07	+ 3·31
		Nowadah	+ 0·37	+ 0·96	— 0·03	— 0·39	— 1·00	+10·00	— 7·06	+ 3·19	+ 2·34	+ 3·11	— 0·03	— 0·21	+11·25
		Arungabad	+ 0·26	— 0·30	+ 0·21	— 0·49	— 0·70	+ 7·84	— 4·05	+ 8·11	+ 5·09	+ 7·71	0	— 0·29	+23·99

Patna	Shahabad	Arrah	− 0·58	+ 0·44	− 0·38	− 0·76	− 1·17	+ 9·64	− 5·56	+ 2·23	+ 2·89	− 0·40	− 0·21	− 0·06	+ 6·08
		Sasseram	+ 0·34	+ 0·45	− 0·10	− 0·12	− 0·62	+ 8·52	− 8·83	+ 5·90	− 2·70	+ 6·31	0	− 0·12	+ 9·03
		Buxar	− 0·21	+ 0·74	+ 0·01	− 0·21	− 0·65	+ 5·29	− 4·42	+ 6·09	− 0·90	+ 4·17	0	+ 0·16	+10·07
		Bhubooah	− 0·02	+ 0·21	− 0·89	− 0·16	− 0·98	+ 8·97	− 8·58	+12·35	+ 1·02	+ 3·42	0	− 0·16	+15·18
	Tirhoot	Mozufferpore	− 0·73	+ 0·29	− 0·35	+ 0·57	− 1·75	+ 2·35	+ 2·00	− 4·80	+ 2·02	+ 1·05	− 0·03	0	+ 0·62
		Durbhunga	− 0·11	+ 0·63	− 0·30	− 0·25	+ 0·01	+ 3·56	+ 1·30	− 5·05	+ 5·45	+ 0·93	0	− 0·10	+ 6·07
		Hazeepore						+ 4·07	− 0·02	+ 1·53	− 0·56	+ 4·20	0	− 0·16	
		Mudhoobanee				− 0·77	− 0·68	+ 5·11	− 0·86	− 5·34	+ 9·11	+ 1·67	0	− 0·01	
		Seetamaree	− 0·29	+ 0·38	− 1·29	− 0·48	− 0·02	− 2·33	− 1·60	− 4·52	+ 3·80	+ 4·46	0	− 0·12	− 2·01
		Tajpore	− 0·46	+ 0·36	− 0·52	+ 0·13	− 0·89	+ 2·40	+ 0·39	− 2·47	+ 1·35	+ 1·80	0	− 0·03	+ 2·06
	Saran	Chuprah	− 0·50	+ 0·39	− 0·14	− 0·52	− 1·18	+ 3·13	+ 2·19	+ 1·06	+ 0·86	− 1·20	− 0·02	0	+ 4·12
		Sewan	− 0·36	− 0·12	+ 0·07	− 0·17	− 1·41	+ 5·85	− 7·10	− 0·14	− 3·43	− 0·73	0	− 0·12	− 7·66
	Chumparun	Motiharee	− 0·30	+ 0·78	− 0·65	− 0·28	− 0·20	+ 3·40	− 3·30	− 3·38	+ 7·80	+ 0·86	0	− 0·10	+ 4·63
		Bettiah							+ 5·70	− 4·34	+ 4·61	+ 3·08	0	− 0·09	
Bhagulpore	Monghyr	Monghyr	− 0·02	+ 0·63	− 0·20	− 0·11	+ 0·31	+ 9·47	+ 0·37	+ 0·49	+ 5·10	+ 2·77	− 0·05	0	+ 18·76
		Begooserai	− 0·35	+ 0·11	+ 0·38	+ 0·04	− 1·77	+ 3·16	− 6·29	− 3·45	+ 1·42	+ 3·31	− 0·02	− 0·01	− 3·47
		Jamooe		+ 0·90	− 0·48	+ 0·04	− 1·42	+ 6·93	− 8·18	+ 1·78	+ 0·46	+ 2·36	0	− 0·02	
	Bhagulpore	Bhagulpore	− 0·14	+ 0·75	− 0·36	− 0·07	− 0·34	+ 7·47	− 3·02	− 3·03	+ 0·91	+ 1·00	− 0·03	− 0·08	+ 3·06
		Seopool									+ 7·68	+ 2·01	0	− 0·05	
		Muddehpoora	− 0·05	+ 0·24	− 0·36	+ 0·32	− 1·82	+ 5·77	+ 0·78	− 1·06	+10·78	+ 1·95	0	− 0·02	+16·53
		Banka	+ 0·32	+ 0·90	− 0·38	− 0·08	− 2·87	+ 9·39	− 4·57	− 0·04	+ 1·75	+ 2·02	0	− 0·03	+ 6·41
	Purneah	Purneah	− 0·28	+ 0·94	− 0·31	+ 0·60	− 0·81	+ 1·61	+ 2·20	− 2·15	+ 1·97	+ 2·91	0	− 0·07	+ 6·61
		Kissengunge							+ 2·30	+ 0·13	+ 6·71	+ 4·66	0	− 0·17	
		Arrariah							− 6·65	− 1·12	+ 6·95	+ 3·64	0	0	
	Sonthal Pergunnahs	Nya Doomka	+ 0·02	+ 0·93	+ 0·35	− 0·45	− 2·05	+ 0·31	− 4·86	+ 3·31	+ 2·37	+ 4·20	− 0·01	− 0·04	+ 4·28
		Deoghur	+ 0·02	+ 1·27	− 0·56	− 0·56	− 1·78	+ 7·49	− 5·36	+ 0·58	+ 8·48	+ 1·43	0	− 0·02	+10·99
		Rajmehal		+ 0·16	+ 0·08	− 0·81	− 0·45	+ 1·46	− 4·06	+ 1·86	+ 5·08	+ 6·22	− 0·40	− 0·04	
Orissa	Cuttack	Cuttack	+ 1·31	+ 1·67	− 0·42	− 1·55	+ 1·55	+ 7·02	+ 4·63	+ 9·18	+ 3·09	+ 4·36	+ 1·10	− 0·51	+31·43
		Jajpore	+ 0·68	+ 1·23	− 0·10	− 1·74	− 1·90	+ 5·75	− 5·61	− 1·94	+ 6·82	+ 7·23	+ 1·10	− 0·46	+ 5·06
		Kendraparah	+ 0·98	0	− 0·25	− 1·31	− 2·92	− 3·57	+ 1·88	+ 0·33	− 0·50	+ 2·78	+ 2·32	− 0·02	− 0·28
		Jugutsingpore	+ 0·19	− 0·42	− 0·38	− 1·59	− 0·96	− 0·47	+ 1·33	+ 2·55	− 3·87	− 1·98			
		False Point	+ 0·54	+ 0·17	− 0·72	− 2·26	− 0·77	− 2·72	+ 0·05	+11·35	− 1·45	+ 5·46	+ 4·78	− 0·16	+14·27
	Pooree	Pooree	+ 0·54	− 0·21	− 0·60	− 1·43	− 1·92	+ 2·24	+ 2·48	+ 2·60	− 4·28	+ 1·44	+ 5·56	− 0·60	+ 5·77
		Khoordah	+ 0·32	+ 0·84	+ 1·18	− 1·60	− 1·17	+ 0·85	+ 4·71	+ 0·88	+ 1·66	+ 1·59	+ 1·76	− 0·07	+10·95

TABLE XXXI.—COMPARISON OF THE RAINFALL OF 1874 WITH THE AVERAGE OF TABLE XXX.—(*Concluded.*)

Divisions.	Districts.	Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	Orissa.—(*Continued.*)														
Orissa (*Continued.*)	Balasore	Balasore	— 0·57	+ 2·18	— 0·87	— 2·02	— 2·89	— 5·98	+ 3·53	— 1·74	— 5·34	+ 4·32	— 0·50	— 0·13	—10·01
		Bhuddruck	+ 1·32	+ 3·08	+ 0·27	+ 0·62	— 4·40	— 0·46	+ 1·73	— 2·99	+ 3·81	+ 2·59	+ 0·01	— 0·03	+ 5·55
	Cuttack Tributary Mehals	Sumbulpore	+ 0·82	— 0·39	+ 0·09	— 0·29	+ 1·48	+ 5·07	— 3·31	+15·15	— 2·06	+ 0·34	+ 0·14	— 0·09	+17·85
	Chutia Nagpore.														
	South Western Frontier Agency.														
	Hazareebagh	Hazareebagh	+ 0·48	+ 2·48	— 0·28	— 0·13	+ 0·04	+ 2·70	— 4·54	+ 2·22	— 0·56	+ 4·50	+ 0·96	— 0·06	+ 7·81
		Pachamba	+ 0·28	+ 2·14	— 0·10	+ 1·08	— 0·66	+ 5·01	— 6·01	— 0·59	+ 2·62	+ 1·27	— 0·05	— 0·06	+ 4·93
	Lohardugga	Ranchee	+ 0·51	+ 2·43	+ 0·45	— 0·32	— 0·08	— 0·66	+ 0·32	+ 6·61	+ 2·46	+ 4·04	— 0·03	— 0·09	+15·64
		Palamow	+ 1·10	+ 1·18	— 0·13	— 0·26	— 0·55	+ 9·86	+ 0·01	+ 2·59	+ 1·28	+ 7·26	— 0·02	— 0·29	+22·03
	Singbhoom...	Chyebassa	+ 0·25	+ 2·76	+ 0·84	— 1·15	— 0·59	— 0·28	— 0·34	+ 4·12	+ 0·31	+ 0·01	+ 0·23	— 0·16	+ 6·00
	Manbhoom	Purulia	+ 1·65	+ 2·18	— 0·48	— 0·28	— 0·34	— 0·92	— 5·18	— 1·65	+ 9·99	— 0·53	+ 0·10	— 0·18	+ 4·36
		Gobindpore							— 5·00	— 2·56	+ 0·35	— 2·56	0	0	
	Assam.														
	Sylhet	Sylhet	+ 1·54	+ 2·97	+ 3·58	+ 6·14	— 2·02	— 8·93	— 8·79	— 12·58	+11·32	— 0·22	— 0·60	— 0·12	— 8·61
	Cachar	Silchar	+ 1·66	+ 2·19	+ 2·72	— 1·75	+ 4·42	— 2·12	— 6·36	— 1·10	+ 3·23	— 1·17	— 0·42	— 0·56	+ 0·74
		Hylakandy	+ 1·23	+ 3·35	+ 1·44	— 2·10	+ 3·02	— 2·61	— 2·10	— 0·56	+ 2·60	— 2·54	+ 0·06	— 0·13	+ 1·66
		Koyah	+ 0·67	+ 3·03	+ 4·90	— 2·44	— 0·65	— 4·69	— 2·50	+ 0·93	+ 1·56	— 3·51	+ 0·65	— 0·25	— 2·90
	Goalpara	Goalpara	+ 0·05	+ 0·71	+ 0·78	+ 3·51	+ 7·40	— 8·91	+ 4·90	— 4·65	+ 0·83	+ 6·27	— 0·27	— 0·12	+ 10·50
		Dhoobree				+ 4·08	+ 13·49	— 5·16	+ 0·82	— 4·45	+ 1·82	+ 3·59	0	— 0·13	
	Kamrup	Gauhati	— 0·05	+ 0·61	+ 2·34	— 1·23	+ 2·08	— 7·62	— 3·91	— 1·26	— 3·01	+ 3·03	— 0·31	— 0·08	— 9·41
		Burpetta	+ 0·69	+ 2·14	+ 0·71	+ 0·31	+ 4·62	— 4·58	— 0·76	— 4·40	— 3·19	+ 3·20	— 0·59	0	— 1·85
	Darrang	Tezpur	— 0·33	+ 0·74	+ 2·27	+ 1·30	+ 10·44	— 8·57	— 5·36	+ 3·75	— 1·96	+ 2·11	— 0·74	— 0·60	+ 3·05
		Mungledye		+ 2·21	+ 1·24	— 0·17	+ 4·00	— 2·73	— 0·96	— 2·45	— 1·46	+ 0·21	— 0·40	— 0·13	
	Nowgong	Nowgong	— 0·52	+ 0·84	+ 0·94	— 3·22	+ 1·42	— 5·47	— 4·91	+ 3·16	+ 2·62	— 0·23	— 0·50	— 0·25	— 6·12
	Sibsagar	Sibsagar	+ 1·20	+ 0·72	+ 0·17	+ 3·51	+ 17·60	+ 10·74	+ 0·08	+ 2·25	— 5·39	+ 1·39	— 0·40	— 0·53	+ 31·34
		Golaghat	+ 1·09	+ 0·79	+ 0·90	— 1·25	+ 9·70	— 1·30	— 2·58	+ 6·00	— 1·38	— 0·74	+ 0·24	— 0·11	+ 11·36
		Jorehat			+ 0·29	+ 3·25	+ 13·80	+ 4·14	— 2·25	+ 3·01	— 2·44	— 1·69	— 0·05	— 0·42	
		Nazeerah	+ 0·52	+ 2·38	+ 1·79	+ 3·88	+ 20·06	+ 1·58	+ 7·70	+ 7·75	— 3·31	+ 3·79	— 0·76	— 0·46	+ 44·02

Luckhimpur	Dibrugarh	+ 0·57	— 0·71	+ 0·24	+ 0·11	+ 13·58	— 1·29	+ 0·11	+ 7·81	+ 2·99	+ 0·48	— 0·09	— 0·12	+ 23·68
	Sadiya	+ 0·93	+ 0·94	+ 3·99	— 1.85	+ 14·73	+ 1·32	+ 3·95	— 2·78	+ 1·14	— 1·83	— 1·25	+ 0·25	+ 19·54
Naga Hills	Samagoodting	+ 0·61	+ 1·47	+ 0·80	— 1·10	+ 1·18	— 1·54	— 0·66						
Khasi and Jaintia Hills	Shillong	+ 1·05	+ 1·71	— 0·24	+ 0·01	— 2·41	— 0·44	+ 13·17	— 1·58	— 2·53	+ 4·90	+ 0·44	— 0·06	+ 14·02
	Jowai	+ 0·39	+ 1·34	+ 0·77	+ 0·12	— 1·02	— 3·00	+ 19·20	— 6·63	— 10·51	— 1·11	— 0·18	0	— 0·63
	Cherrapoonjee	+ 0·53	+ 1·40	+ 4·95	— 3·72	+ 36·30	— 44·57	— 26·22	— 26·55	— 10·04	— 7·40	— 1·33	— 0·08	— 76·73
Garo Hills	Tura	+ 1·50	+ 2·26	— 0·11	— 2·75	+ 1·68	— 4·55	+ 8·18	— 5·90	+ 6·40	+ 9·27	— 0·09	— 0·09	+ 15·80
OTHER PROVINCES.														
North-Western Provinces	Benares	— 0·63	— 0·09	— 0·18	— 0·22	— 0·50	+ 8·50	— 3·77	+ 18·52	+ 0·38	+ 1·75	— 0·01	— 0·06	+23·09
	Goruckpore	— 0·64	+ 0·51	— 0·23	— 0·20	— 1·25	+ 3·34	+ 5·63	— 0·31	— 0·78	— 0·20	0	— 0·16	+ 5·71
	Jhansi	— 1·42	— 0·20	— 0·28	— 0·03	— 0·34	— 0·50	— 3·63	+ 8·79	— 1·98	— 1·14	0	— 0·23	— 0·96
	Lucknow	— 1·12	+ 0·14	— 0·13	— 0·22	— 0·69	+ 6·97	— 2·62	+ 7·32	— 2·75	— 1·09	0	— 0·39	+ 5·42
	Agra	— 0·52	— 0·24	— 0·26	— 0·06	— 0·59	+ 3·79	+ 0·29	+ 1·36	— 2·08	— 0·41	0	— 0·23	+ 1·05
	Ajmere	— 0·81	+ 0·14	— 0·16	— 0·15	+ 0·21	+ 2·44	— 0·80	— 3·55	— 2·76	— 0·12	— 0·09	— 0·30	— 5·95
	Bareilly	— 0·96	— 0·27	— 0·13	— 0·40	— 0·34	+ 1·30	— 1·08	+ 2·01	+ 12·64	— 0·82	0	— 0·43	+ 11·52
	Roorkee	— 0·61	+ 0·38	+ 1·13	— 0·39	— 0·53	+ 6·57	+ 4·54	— 2·37	— 1·58	— 0·50	— 0·24	— 0·62	+ 5·78
Central Provinces... ...	Jubbulpore	— 0·10	— 0·35	— 0·57	— 0·11	+ 0·73	+ 9·45	+ 5·26	+ 22·25	— 3·95	— 0·89	— 1·00	— 0·27	+ 30·45
	Nagpore	— 0·50	— 0·32	— 0·93	— 0·37	— 0·06	— 0·55	+ 7·94	— 1·79	— 3·77	— 2·49	— 0·57	— 0·31	— 3·81
	Saugor	+ 0·54	— 0·66	— 0·25	— 0·17	+ 0·76	+ 6·68	+ 7·20	+ 8·45	— 3·02	— 0·87	— 0·27	— 0·71	+ 17·68
	Hoshungabad	— 0·31	— 0·15	— 0·17	— 0·04	— 0·36	+ 6·22	+ 0·61	— 0·51	— 5·46	— 0·66	— 0·52	— 0·22	— 1·57
	Chanda	— 0·05	+ 0·24	— 1·01	— 0·08	+ 0·08	+ 3·41	— 3·94	+ 0·38	+ 1·32	— 1·07	0	— 0·13	— 0·85
	Raipore	+ 0·39	+ 0·16	— 0·28	— 0·73	— 0·05	+ 10·09	+ 5·53	+ 5·69	— 0·53	+ 1·19	— 0·41	— 0·14	+ 20·91
	Seoni	— 0·13	— 0·81	— 0·59	— 0·45	— 0·15	+ 2·66	+ 3·91	+ 5·30	+ 5·76	— 1·27	— 0·41	— 0·54	+ 13·28
Madras	Vizagapatam	+ 0·28	— 0·27	— 0·72	— 1·95	— 0·30	— 1·38	— 1·20	— 3·08	+ 1·72	+ 9·91	+ 0·88	— 1·30	+ 2·59
	Madras	— 1·66	— 0·95	— 0·42	— 0·42	+ 5·99	— 0·58	+ 0·47	— 2·49	— 0·23	+ 8·65	— 3·48	+ 1·67	+ 6·55
Ceylon	Jaffna	— 1·13	+ 1·30	— 1·78	— 0·21	+ 0·14	+ 2·79	0	— 0·97	+ 1·11	— 1·30	— 7·09	+ 3·29	— 3·85
	Trincomalle	— 5·88	— 0·55	+ 0·81	— 2·47	+ 0·13	+ 1·79	+ 2·27	+ 0·13	+ 4·46	+ 0·36	— 3·54	+ 3·76	+ 1·27
	Colombo	— 0·03	+ 2·80	— 5·43	— 4·33	+ 0·51	+ 0·27	+ 0·14	— 1·49	— 2·43	— 3·47	— 3·73	— 1·31	— 18·50
	Galle	— 0·32	+ 2·60	— 0·17	— 2·90	+ 4·95	+ 1·27	+ 2·13	— 1·40	— 1·05	+ 1·68	+ 1·47	— 0·73	+ 7·53
Arrakan	Akyab	— 0·35	— 0·19	+ 1·19	— 1·25	— 2·32	— 19·37	— 24·51	— 7·10	— 6·65	+ 0·19	— 2·36	— 0·21	— 62·93
Andamans	Port Blair...	— 0·28	— 2·31	+ 0·01	— 1·60	+ 8·94	— 5·44	— 3·80	— 0·59	— 5·20	— 2·09	+ 1·60	+ 0·03	— 10·73

The principal anomalies of the rainfall in 1874, and the leading peculiarities of its distribution over those parts of India comprehended in the foregoing tables, are noticed, month by month, in the following remarks:—

January.—In the Lower Provinces the principal general showers during the month were on the 25th, the 30th, and the 31st. On the 12th there was some rain in Behar, which also extended over parts of the northern and eastern districts of Bengal, and two or three days later on there was general light rainfall in Assam. It may be said that the rain which fell in this month was above the average generally in Bengal, Assam, Chutia Nagpore, and Orissa. The districts of Maldah, Dinagepore, Chittagong, and Noakholly, were, however, exceptions in Bengal, as were Nowgong and Darrang in Assam, and Akyab on the Arakan coast. On the other hand, the rain which fell in Behar was less than usual, except in Gya and the Sonthal Pergunnahs. There was also a deficiency in the North-Western and Central Provinces, at Madras, in Ceylon, and at Port Blair.

February.—The rain which commenced to fall in the Lower Provinces on the 30th of January was general, and lasted until the 2nd of February. There was again heavy general rain on the 5th and 6th, and in Assam on the 6th, 7th, and 8th. On the 14th there was heavy rainfall in Bengal, which, however, did not extend to Behar, Chutia Nagpore, and Orissa. In Assam, especially in the Sibsagar district, showers were plentiful throughout the month. In Bengal, Behar, Chutia Nagpore, and Orissa, as also in Assam, the rainfall of this month was unusually plentiful, especially so in the western districts of Bengal, in the Presidency Division and in the eastern districts, and also in Cachar and Sylhet, in Assam. On the other hand, at Akyab, Port Blair, and Madras, the rain which fell was deficient in quantity, and it was slightly so in the Central Provinces. There was about the average fall in the North-Western Provinces.

March.—Rain in the Lower Provinces in this month fell chiefly on the 7th, 8th, and 9th; on the 16th, 17th, and 18th; and less generally on the 23rd, 24th, and 25th. In the last period mentioned, there was no rain in Behar and Chutia Nagpore. In Assam and the eastern districts of Bengal, the rainy periods were much longer than in Behar and Western Bengal, and generally commenced one or two days later. The heaviest rainfall in the month was 10·97 inches at Cherrapoonjee, 4·85 inches having fallen on the 24th. But the rainfall at Koyah, in Cachar (10·27 inches), was nearly as large. The rain which fell in this month was slightly less than usual in the western districts of Bengal. In the central and the eastern districts it was somewhat above average, but considerably so in Assam. In Behar, Chutia Nagpore, and Orissa, however, there was somewhat less than the usual quantity, and this was also the case in the North-Western and Central Provinces, and along the southern shores of the Bay.

April.—This was an unusually dry month, especially so in the western districts of Bengal, in Behar, Chutia Nagpore, and Orissa. In the eastern districts of Bengal, there were, however, some showers in the early days of the month, and during the last three or four days rain was general. In Behar, what little rain there was fell on these days; but throughout the month no rain fell in the districts of Gya and Shahabad. With the exception of a few showers at two places, there was no rain in the North-Western and Central Provinces at the stations given in the foregoing tables. In Assam rain was general throughout the month, and the quantity although slightly deficient in some districts (Cachar and Nowgong, principally) was on the whole above the average, especially so in Sylhet and in Goalpara. The greatest quantity registered was, as usual, at Cherrapoonjee, 28·33 inches, nearly four inches below average. 20·7 inches fell at Sylhet, a little more than 6 inches above the average.

The heavy rainfall in the Assam Valley and in Sylhet extended partially into the neighbouring districts of Bengal (Cooch Behar, Rungpore, and Mymensingh) where, and also mostly throughout the Rajshahye Division, the quantity which fell in the month was somewhat in excess of the average. With the exceptions noted above, the rainfall of this month was below the average throughout the regions to which the tables refer.

May.—This was the wettest month of the year in the Assam Valley, where generally July is the month of heaviest rainfall. But in 1874, the

May rainfall was excessive in the extreme, and it is not too much to say that it was not less than double the normal quantity. In some places indeed, especially in the north-east of the Valley, the excess was much greater than this. Thus at Nazeerah, the fall was 29·66 inches, 9·6 inches being the average of 14 years (including 1874). Generally throughout Assam and the neighbouring hills, the rainfall was much in excess of the average. At Sylhet, however, where in the preceding month it had been unusually heavy, there was a slight deficiency, and such was also the case at Shillong (elevation 4,826 feet), about 46 miles to the north of Sylhet. But at Cherrapoonjee (elevation 4,460 feet) on the southern ridge of the Khasi Hills, and about 30 miles north-north-west from Sylhet, the rainfall in this month was 96·43 inches, being 36·3 inches above average. At this place 36·07 inches fell in four consecutive days, from the 15th to the 18th.

In Western and Central Bengal, on the first of the month, and in Eastern Bengal on the second, rain fell more or less generally. There were also showers at a few places in Orissa and Chutia Nagpore on these dates, but none in Behar. Over the greater portions of the western and central districts of Bengal, there were showers from the 11th to the 13th, but in the eastern districts the rainfall was heavy and continuous, and, although followed by a break of some days, I think the rainy monsoon must be regarded as having commenced on the 11th of May in Eastern Bengal. From about the 23rd (at some places a few days earlier, at others a few days later on) rain became general over the greater part of Bengal. There was after this no considerable break in the continuity of the rainy season, which may be said to have commenced about the date mentioned above in the western and central districts. The monsoon, thus commencing about three weeks before the usual time, was not ushered in, as is often the case, with a single well-marked and general burst of rainfall. Although more or less continuous in character, the rainfall in the delta was extremely scanty and irregularly distributed. In Behar there were a few showers, mostly on the 24th and 25th; and in Orissa and Chutia Nagpore there was partial and irregular light rainfall from about the 23rd up to the end of the month.

The total rainfall of the month was generally deficient in Bengal, except in the northern and eastern districts, where it was mostly in excess of the usual quantity. In Mymensingh, however, it was less than the average, and this was also the case on the Arakan coast. In Behar, Orissa, and Chutia Nagpore the rain which fell was almost universally less than usual, and the same may be said of the North-Western and Central Provinces. On the other hand, in the south of the Bay, at Madras, in Ceylon, and at Port Blair, the May rainfall was considerably in excess of the normal quantity. The monsoon was reported in the newspapers to have set in at Colombo on the 2nd of May.

June.—During the last three days of the preceding month there was a break at most places in the rainy weather. This lasted, in the eastern districts of Bengal, and also in Assam and Cuttack, up to about the 4th or 5th of June. In the greater part of the western districts, and in the 24-Pergunnahs, rain fell on the 30th May, but in these localities no rain fell on the 1st of June. In Behar and Chutia Nagpore there was irregular rainfall on the 1st of the month and on this date the monsoon rains may be said to have commenced in those provinces. The rains, however, continued irregular and partial in Behar up to the 8th, but from this to the 13th there was heavy and general rainfall, and especially so on the latter date. In Chutia Nagpore, the rainfall was, mostly, evenly distributed throughout the month. In Bengal, except in some of the northern and eastern districts, the rainfall up to the 15th was on the whole partial and scanty. But on the 17th, 18th, and 19th, there was heavy rain everywhere throughout Bengal and Behar. In Orissa the rainfall was as scanty and as partial as in Bengal up to the 14th, but on that date rain was heavy and general, and continued to fall in large quantities up to the 17th over the whole province.

As would be expected from the mostly partial character of the showers, there was very considerable irregularity in the distribution of the rainfall of

the month over Bengal. Such was not the case, however, on the one side in Behar, where it greatly exceeded the average, and on the other side in Assam where it was almost as equally deficient. Commencing with Behar, it may be said that in the districts south of the Ganges (Gya, Shahabad, and parts of Monghyr and Bhagulpore), the rain which fell in this month was at least twice the normal quantity. Heavy rainfall was general throughout the whole of the province of Behar, but the excess was not so great in Tirhoot and Chumparun as elsewhere. The region of excessive rainfall extended southwards over half the province of Chutia Nagpore and eastwards over Beerbhoom, Bankoora, parts of Burdwan, and parts of the Rajshahye Division. In the southern parts of Orissa, especially at Cuttack, the rainfall was above average. But throughout Balasore, Midnapore, Howrah, Hooghly, and the 24-Pergunnahs, it was very scanty, and especially so in the Hooghly and Howrah districts. In the remaining central districts there was considerable irregularity. In Nuddea the rainfall was somewhat above the average, and this was also the case in parts of the northern districts, where, at some places, heavy falls were recorded. On the other hand in the eastern districts, except at Burrisal, and on the Arakan coast the rainfall was much below the average. Such was also, as has been stated, the case throughout Assam and the neighbouring hills, except in the Sibsagar district, in the north-east of the Valley. At Cherrapoonjee only 64·27 inches were registered—44·57 below the average of 16 years, including 1874. At Akyab, where this is the wettest month in the year, the fall of 39·41 inches was 19·37 inches below average.

In the North-Western Provinces, except at Jhansi, the June rainfall was excessive. At Benares, Lucknow, and Roorkee the quantity was considerably more than double the average for the month. Of a like character was the rainfall in the Central Provinces. With the exception of a very slight deficiency at Nagpore, it was abnormally heavy, and especially so at Jubbulpore, Saugor, Hoshungabad, and Raipore, where the excess was greater than the normal fall. In these provinces the area of heavy rainfall lay immediately to the south of the isobar of 29·55 inches, and in Behar and the North-Western Provinces it lay immediately to the north of the same line. In the area of lowest pressure and maximum temperature between, the rainfall, as far as the data show, was not much in excess of the usual quantity, and in some cases it was below it.

To the south of the Bay, the rainfall in this month was above the average in Ceylon. On the Madras coast it was slightly deficient, but considerably so at Port Blair.

July.—Except at a few stations, the rainfall in this month was excessively scanty in Bengal, and also somewhat deficient in Assam, Behar, and Chutia Nagpore. In Orissa there was little rain up to the 22nd, but the heavy falls from this date up to the 29th brought the total quantity generally above the average for the month. Such was also the case at Contai, in the Midnapore district. In Bengal the only places, besides the one mentioned above, where the rainfall exceeded the average were Dinagepore, Maldah, Rungpore (not the district generally), Bodah, and Burrisal. The distribution in Assam was somewhat irregular. At Goalpara, to the west of the Valley, the rainfall was above the average, and this was also the case at Nazeerah and Sadiya in the north-east, and at Shillong, Jowai, and Tura. At the remaining Assam stations the rainfall was deficient. At Cherrapoonjee the fall of 115·1 inches in this month was 26·2 inches below the average. At Akyab the rainfall of 28·39 inches was little more than half the normal quantity.

In Behar the first four days in the month, the 7th to 10th, and the 15th to 16th, were the wettest periods. After the latter date there was little general rain during the remainder of the month. The districts of Gya and Shahabad, where the rainfall of the previous month had been so heavy, were those in which the deficiency in July was greatest. At Patna it was above the average, and this was also the case at some of the Tirhoot stations, at Chupra, at Bettiah, and at Purneah.

In the North-Western Provinces there was also considerable irregularity in the distribution of rain. At Gorruckpore, Agra, and Roorkee, and probably

at Allahabad and Meerut, there was more than the normal quantity, but slightly less at the other stations given in the foregoing tables. In the Central Provinces, however, the rainfall was above average, except at Chanda; the greatest excess being at Nagpore, where, in the previous month, there had been a slight deficiency. In the south of the Bay, there was more rain than usual in Ceylon, and a slight excess at Madras. At Port Blair, however, there was a considerable deficiency.

August.—In Bengal the August rainfall was almost universally very deficient in quantity. At most places, indeed, more so than that of the previous month. At Berhampore, where the average fall is nearly 10 inches, only a total of 2·96 was registered, and at Burrisal, with an average of 14·64 inches, only 4·1 fell in August 1874. On the whole the deficiency was less in Midnapore and the 24-Pergunnahs than elsewhere. At Saugor Island, Contai, and Tumlook, there was in fact considerably more rain than usual, and somewhat more in Bankoora. The only other exceptions in the general failure of the rains in Bengal, were Nattore, Bodah, and Noakholly. In parts of Assam and the adjacent hills the rainfall in this month was somewhat scanty, especially so in Sylhet, and to a less considerable extent in Goalpara. In the central and eastern parts of the Valley, however, it was excessively heavy.

In Orissa there was very heavy rain on the first two days of the month, resulting from stormy weather on the north of the Bay. For the whole month the rainfall in this province was above the average, and excessively so at Cuttack and False Point. Judging from the fall at Sambulpore, which was considerably greater than double the normal quantity, it is probable that this excessive rainfall extended over the greater part of the Orissa Tributary Mehals. With the exception of a slight deficiency in Manbhoom, Chutia Nagpore also received more than the usual quantity.

In the districts of Behar south of the Ganges (excepting Patna), the rainfall was generally above the normal quantity, and again excessively so in Gya and Shahabad. North of the Ganges it was mostly deficient, but extremely scanty in Tirhoot and Chumparun. In the North-Western Provinces the rainfall was mostly above the average, but excessively so at Benares, Lucknow, and Jhansi. The same may be said of the Central Provinces, where, at Jubbulpore, the extraordinary fall of 36·99 inches (22·25 above the average) was registered during the month. In the south of the Bay, there was less rain than usual at Madras, in Ceylon, and at Port Blair.

September.—The peculiarities of the distribution of rainfall in this month were in many respects the reverse of those which had been more or less persistent in the earlier months of the monsoon. While on the one hand the rainfall became scanty in the Central and North-Western Provinces, and in the east of the Assam Valley, on the other hand, it became unusually plentiful over the greater portions of Bengal and Behar.* In Bengal the excess was greatest in the northern districts—Dinagepore, Maldah, Rajshahye, Julpigoree, and Rungpore. At Julpigoree there fell in this month 56·49 inches (29·18 above average), at Titalya 39·76 (16·15 above average), and at Fureedpore 21·13 inches (11·51 inches above average). In Western Bengal the excess was not so regular, but at Soory 21·63 inches (12·3 above average) was recorded. On the whole, although the rainy periods were separated by longer intervals than in the preceding months, this was the month of heaviest rainfall, generally, in Bengal and Behar. In normal years July is the wettest month.

In Assam, except in the central and eastern parts of the Valley, and in the Khasi and Jaintia hills, the rainfall was more copious than usual, especially so in Sylhet. There was still, however, a deficiency on the Arakan coast and in Tipperah. In Behar the rainfall was but little above the average in Gya, Shahabad, and Sarun; but in the remaining districts it was abnormally heavy. In Chutia Nagpore it slightly exceeded the normal quantity generally, but there was excessively heavy rain at Purulia. The distribution of rainfall in Orissa was as irregular as in Western Bengal. It was on the whole somewhat deficient; but Cuttack still continued to receive more than its fair proportion.

Benares, where there was a slight excess, and Bareilly, where there was abnormally heavy rain, were the only stations in the North-Western Provinces comprehended in table XXXI where the quantity of rain which fell came up to the normal amount. In the Central Provinces the exceptions to the general failure were Chanda and Seoni. In Ceylon the rainfall was about the average, but there was a considerable deficiency at Port Blair.

October.—In the Central and North-Western Provinces, except at a few places (Benares, Goruckpore, and Raipore), the monsoon rains ended in September. Such, however, was not the case in Behar, where there was heavy and very general rainfall from the 3rd to the 8th of October. After this there was no rain worth speaking of up to the 28th. But on this date, and for the two following days, it rained heavily all over the province. In Bengal the early days of the month up to the 6th were rainy. From this there was mostly dry weather until the Midnapore and Burdwan cyclone of the 15th and 16th deluged the country along and on both sides of its track. Towards the end of the month there was again heavy rain throughout the Lower Provinces, which commenced round the head of the Bay on the 25th, and lasted in the northern and eastern districts of Bengal and in Behar up to the end of the month.

Compared with the averages of past years, the total rainfall of the month was excessively heavy throughout Bengal, Behar, Chutia Nagpore, and Orissa. This was especially the case in the Rajshahye and Cooch Behar Divisions in Bengal; in Purneah, the Sonthal Pergunnahs, Monghyr, and Tirhoot in Behar; and in Lohardugga in Chutia Nagpore. The excessive rainfall at some places in Orissa, Western Bengal, the 24-Pergunnahs, and Moorshedabad was in a great measure due to the cyclone of the 15th and 16th. But even deducting the rainfall on those days, the remainder at most places would be still in excess of the normal quantity for the month.

In Assam, except in Cachar, Sylhet, and at Cherrapoonjee, the rainfall was mostly equal to or above the average. It was very heavy in Goalpara and Gauháti. At Vizagapatam and Madras the October rainfall was excessively heavy. It was about the average in Ceylon, but deficient at Port Blair.

November.—The monsoon rains of 1874 ended in Behar and Northern Bengal on the 31st October. In Western Bengal there were some showers on the 2nd and 3rd of November, and on the same dates, and again on the 11th in the 24-Pergunnahs. There was general rain in Jessore on the 14th, and on the 12th, 13th, and 14th round the north-east corner of the Bay. In Orissa there was heavy rain on the 2nd throughout the whole province, and less general rain on the 1st and 3rd. In Assam there were some showers on the 3rd, but nothing of any importance afterwards. Except a shower at Chanda, there was no rain in the North-Western and Central Provinces.

The rain which fell in the month was about the average quantity in the western and eastern districts of Bengal and in the Presidency Division. It was above the average in Orissa. Elsewhere throughout Northern India it was deficient. At Madras, in Ceylon, and at Port Blair the rainfall was slightly greater than usual.

December.—The only showers worth mentioning in the Lower Provinces in this month fell in Orissa on the 11th, and in the east of the Assam Valley on the 30th. There were very light showers at a few places in the North-Western and Central Provinces. At Madras and on the eastern coast of Ceylon the rainfall was above the average.

The year.—The total rainfall of the year was deficient in the Western Districts of Bengal and in the Presidency Division, except at Burdwan, Bood-Bood, Soory, and Contai. The greatest defect was at Hooghly, where it amounted to 36 per cent. In the Rajshahye and Cooch Behar Divisions the total rainfall, was generally above the normal quantity; but there was a considerable defect at Pubna. In the eastern districts the quantity was uniformly below the average, except at Noakholly. Such was also the case on the Arakan coast. At Akyab the defect amounted to 31 per cent. In Assam and the adjacent hills the total rainfall was greater than the normal quantity generally, especially so in the

eastern parts of the Valley and at Shillong; but in Sylhet, Gauháti, and Nowgong it was somewhat deficient. At Cherrapoonjee the normal rainfall is 500 inches: 422·5 inches fell in 1874. Throughout Behar, except at a few places (Seetamaree, Sewan, and Begoo Serai), where the defect was slight, the rainfall of the year was considerably in excess of the normal quantity. Such was also the case in Chutia Nagpore and in Orissa, except at Balasore. In the North-Western and Central Provinces, as far as my data show, the rainfall was generally very abnormaly plentiful; the only noteworthy exceptions being Jhansi, Ajmere, and Nagpore; and at these places the defect was small. At Madras it was above the average, and such was also the case at Galle. But there was a considerable defect at Colombo, and the same may be said of Port Blair.

The most remarkable fall within 24 hours was 25·8 inches at Jowai on the 6th of July. On the same day 20·5 inches fell at Cherrapoonjee, and 61·82 inches fell in four consecutive days from the 5th to the 8th of July.

WINDS.

TABLE XXXII shows the wind observations of each month in 1874. The directions are classified to eight points of the compass, and are reduced to percentages of the whole number of observations. The original observations were made to sixteen compass points. These have been reduced to eight by dividing equally the number of observations made at any of the minor points between the two adjacent eight point divisions. Thus, 10 observations at E.S.E. are put down as five at E. and five at S.E. The resultant direction in each month is computed by Lambert's formula from the number of observed winds, and the excess of the observations in the direction of the resultant is shown as a percentage. This table also shows, for all the stations for which sufficient data have been accumulated, the average results of several years' wind observations in each month, similarly classified and reduced. In the percentages of wind observations, and also in the numbers indicating the mean diurnal movement of the wind in miles, decimals less than ·5 have been omitted, and decimals equal to or greater than ·5 have been taken as unity.

The anemometers are all of Robinson's construction, and are fixed either on the top of a building or on a post set up for the purpose. The elevations of the cup and bulb motors above the ground are as follow:—

Akyab ...	... 50 feet,	on a post.
Cuttack ...	... 31 „	on a building.
Saugor Island ...	... 39 „	turret of Superintendent's house.
Calcutta ...	... 71 „	the highest point of the Surveyor-General's Office.
Chittagong ...	... 25 „	on the Electric Telegraph Office building.
Dacca ...	... 43 „	ditto ditto.
Silchar ...	... 21 „	on a post.
Goalpara ...	... 19 „	ditto.
Berhampore ...	... 23 „	on a building.
Hazareebagh ...	... 29 „	ditto.
Monghyr ...	... 9 „	on a small post.
Patna ...	... 34 „	on roof of cutcherry.

At Chittagong and Goalpara the observatories are situated on hills, so that the exposure of the anemometers is really somewhat better than might be inferred from the above figures.

Table XXXIII shows the wind resultants in each month of 1874 for some additional stations in the North-Western and Central Provinces. The percentage of observations in the direction of the resultant has not been given in the monthly abstracts issued by the Meteorological Reporter for the North-Western Provinces. This table also shows the average resultants for some years for three stations in the North-Western Provinces, and for three in Central India.

Table XXXIV shows the mean diurnal movement of the wind in each month of 1874 at a number of stations in the North-Western Provinces, Central India, and Ceylon; also the average movement at two stations in the Central Provinces.

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.

PORT BLAIR, 1874.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	44	13	18	20	3	2	.....	.....	.....	.....	13	19	10
N.E.	48	86	42	12	2	.....	2	6	5	13	27	65	26
East	5	2	16	52	3	6	.....	3	.....	6	5	6	9
S.E.	.....	.....	21	13	36	27	18	13	40	39	50	5	22
South	.....	.....	.....	.....	3	15	11	18	5	11	.....	.....	5
S.W.	.....	.....	.....	2	53	50	69	58	50	29	5	.....	26
West	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....
N.W.	3	.....	3	2	.....	.....	.....	.....	.....	2	.....	3	1
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction ...	N 25 E	N 40 E	N 59 E	N 74 E	S 8 W	S 8 W	S 26 W	S 22 W	S 3 W	S 23 E	S 33 E	N 39 E	.....
Resultant { Percentage..	88	96	68	70	62	68	80	68	65	53	56	82	.....
Mean diurnal velocity in miles	186	108	92	108	251	262	253	282	220	184	165	140	.....

PORT BLAIR.

Average from 1868 to 1874.

North	20	14	11	6	2	.....	.....	.....	1	4	6	12	6
N.E.	62	59	56	35	6	.....	.....	2	3	20	60	65	31
East	7	11	11	18	1	1	.....	1	1	9	5	4	6
S.E.	4	7	13	18	14	12	4	7	15	22	16	8	12
South	1	1	1	3	8	6	5	7	4	9	3	2	4
S.W.	.....	1	1	10	58	78	88	79	70	31	8	5	36
West	.....	1	1	4	2	1	1	3	4	2	.....	.....	1
N.W.	6	7	7	7	9	1	1	1	3	4	2	4	4
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction ...	N 37 E	N 43 E	N 50 E	N 73 E	S 36 W	S 34 W	S 41 W	S 39 W	S 35 W	S 24 E	N 61 E	N 45 E	.....
Resultant { Percentage..	81	76	69	42	57	83	92	84	78	28	59	69	.....

MADRAS, 1874.

Two observations daily.

North	19	4	.....	.....	2	2	.....	.....	.....	6	40	65	12
N.E.	44	14	3	.....	2	.....	2	8	5	6	17	13	10
East	29	27	13	2	5	7	6	10	3	5	3	3	9
S.E.	8	38	58	80	33	10	3	6	12	16	5	3	23
South	.....	16	19	17	15	7	3	1	10	11	.....	.....	9
S.W.	.....	2	6	2	26	45	29	26	28	23	5	.....	16
West	.....	.....	.....	.....	10	27	50	42	35	16	.....	.....	15
N.W.	.....	.....	.....	.....	8	3	2	6	7	16	30	16	7
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction ...	N 56 E	S 64 E	S 39 E	S 87 E	S 6 W	S 49 W	S 65 W	S 72 W	S 56 W	S 54 W	N 5 W	N 2 E	.....
Resultant { Percentage..	79	69	81	94	48	63	68	47	54	58	66	83	.....
Mean diurnal velocity in miles	111	194	248	304	262	239	243	229	193	178	206	309	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

MADRAS.—(*Continued.*)

Average direction from 1868—74; *velocity from* 1871—74.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	19	7	1	1	2	1	1	.....	1	11	33	40	10
N.E.	48	23	6	2	1	1	2	4	3	11	30	32	14
East	18	31	22	13	7	8	7	10	9	13	7	9	13
S.E.	6	23	48	56	42	18	8	10	15	11	7	5	21
South	2	11	20	20	20	8	9	7	14	7	2	.....	10
S.W.	1	4	3	6	15	24	29	25	18	14	6	6	13
West	.....	.....	.....	1	8	31	38	35	31	16	2	.....	13
N.W.	6	2	.....	1	5	8	7	9	9	17	14	8	7
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction ...	N 46 E	S 86 E	S 48 E	S 38 E	S 17 E	S 47 W	S 60 W	S 60 W	S 44 W	N 54 W	N 17 E	N 22 E	.....
Resultant { Percentage ..	72	59	77	79	57	44	57	45	39	11	55	65	.....
Mean diurnal velocity in miles...	185	185	217	272	280	279	266	229	212	173	218	246	.....

VIZAGAPATAM, 1874.

Four observations daily.

North	.....	3	.....	.....	.....	2	.....	1	1	.....	6	.....	1
N.E.	8	2	.....	.....	2	.....	.....	1	1	6	15	10	4
East	25	10	1	2	11	3	4	2	12	19	49	44	15
S.E.	30	15	21	9	11	15	12	6	25	21	8	26	17
South	14	26	27	27	27	13	12	16	17	9	1	6	16
S.W.	6	13	14	15	15	20	18	10	13	14	3	7	12
West	15	28	35	46	31	43	51	56	26	27	8	5	31
N.W.	3	4	2	2	2	4	3	7	5	5	9	3	4
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction ...	S 45° E	S 25° W	S 32° W	S 49° W	S 28° W	S 55° W	S 60° W	S 71° W	S 13° W	S 5° W	N 74° E	S 72° E	.....
Resultant { Percentage	44	42	58	65	48	58	61	64	41	25	50	61	.....
Mean diurnal velocity in miles	66	73	90	126	126	116	98	104	54	52	57	67	.....

VIZAGAPATAM.

Average direction from 1870—74; *velocity from* 1872—74.

North	2	1	.....	.....	.....	1	1	1	1	2	5	3	1
N.E.	12	4	1	2	1	1	.....	2	3	13	29	19	6
East	35	17	3	4	5	5	2	5	13	28	48	46	18
S.E.	20	25	17	15	14	13	6	8	15	15	7	12	14
South	12	20	22	22	23	18	9	12	17	9	4	3	14
S.W.	6	10	13	16	16	16	21	15	17	8	3	4	12
West	8	18	40	39	37	43	57	51	29	18	6	5	29
N.W.	5	4	5	3	3	4	5	6	5	6	3	3	5
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction ...	S 69 E	S 13 E	S 43 W	S 42 W	S 40 W	S 52 W	S 71 W	S 69 W	S 29 W	S 63 E	N 75 E	N 82 E	.....
Resultant { Percentage	45	38	53	55	54	55	72	59	38	22	54	55	.....
Mean diurnal velocity in miles	47	70	95	125	126	119	111	84	67	60	74	63	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

AKYAB, 1874.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	25	16	10	3	3	3	.....	1	5	4	13	32	10
N.E.	18	12	7	2	5	7	3	2	8	6	17	14	8
East	2	10	9	3	6	8	8	6	16	24	13	7	9
S.E.	.....	.....	6	8	8	21	27	20	16	16	6	1	11
South	1	.....	10	8	15	38	47	50	21	16	10	1	18
S.W.	9	9	7	40	34	19	8	12	17	9	5	6	15
West	23	29	17	29	25	4	4	6	12	17	27	23	18
N.W.	23	24	32	7	3	2	2	2	6	8	9	17	11
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant { Direction...	N 33° W	N 45° W	N 55° W	S 58° W	S 45° W	S 8° E	S 15° E	S 4° E	S 11° E	S 26° E	N 28° W	N 23° W	.....
Resultant { Percentage	55	49	32	62	51	58	70	69	29	23	16	53	.....
Mean diurnal velocity in miles	81	98	125	86	95	110	106	94	71	67	56	69	.....

AKYAB.

Average from 1868—74.

North	18	15	9	7	4	2	.....	2	3	5	17	19	9
N.E.	18	19	11	6	5	4	2	3	5	13	19	21	11
East	7	8	9	7	9	8	6	9	15	19	10	6	9
S.E.	4	1	5	6	11	19	29	20	19	14	5	2	11
South	4	.....	4	9	15	34	42	35	26	14	4	1	16
S.W.	6	4	8	20	20	23	16	21	13	12	7	6	13
West	22	22	21	26	21	3	3	7	12	14	18	16	15
N.W.	21	23	26	18	12	4	2	3	7	8	19	13	14
Calm	1	3	6	1	3	2	.....	1	1	2	.....	11	3
Resultant { Direction...	N 28 W	N 26 W	N 49 W	S 86 W	S 50 W	S 2 E	S 10 E	S 1 E	S 9 E	S 37 E	N 15 W	N 15 W	.....
Resultant { Percentage	40	50	32	38	31	57	72	59	37	15	32	42	.....

FALSE POINT, 1874.

Four observations daily.

North	7	2	2	.....	.....	.....	2	.....	2	10	44	27	8
N.E.	23	17	8	.....	1	3	6	.....	3	25	33	29	12
East	6	9	5	.....	.....	5	7	.....	7	11	2	5	5
S.E.	4	4	6	.....	4	8	10	.....	7	8	.....	4	5
South	3	10	5	6	16	13	10	10	19	9	2	2	9
S.W.	27	39	48	90	69	31	28	48	39	6	.....	1	35
West	8	6	16	2	4	25	11	31	1	14	.....	3	10
N.W.	10	6	5	2	.....	3	2	8	3	6	17	17	7
Calm	11	7	6	1	6	14	23	3	19	12	3	12	10
Resultant { Direction ...	N 56° W	S 34° W	S 51° W	S 44° W	S 36° W	S 45° W	S 26° W	S 62° W	S 19° W	N 43° E	N 10° E	N 13° E	.....
Resultant { Percentage	11	26	49	95	84	50	33	81	49	17	79	56	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

FALSE POINT.—(*Continued.*)

Average from 1868—74.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	12	5	3	2	1	.....	1	2	3	12	28	22	8
N.E.	29	14	7	2	1	3	2	5	7	28	36	37	14
East	10	9	3	1	3	2	2	2	5	8	6	9	5
S.E.	9	9	6	3	4	8	5	7	12	9	4	6	7
South	7	10	8	10	13	9	7	6	11	5	2	3	8
S.W.	12	30	50	72	65	46	38	37	37	7	2	2	33
West	5	8	14	6	6	19	31	25	11	7	2	2	11
N.W.	7	8	5	3	2	5	3	11	5	7	12	12	7
Calm	11	7	4	3	5	8	6	5	8	18	9	7	8
Resultant { Direction ...	N 51 E	S 32 W	S 49 W	S 43 W	S 39 W	S 48 W	S 62 W	S 63 W	S 33 W	N 41 E	N 22 E	N 30 E	.....
Resultant { Percentage	24	20	55	79	76	62	64	54	40	28	60	55	.....

CUTTACK, 1874.

Four observations daily.

North	6	6	3	.....	.....	4	2	1	3	12	24	14	6
N.E.	19	14	7	1	2	4	9	2	7	27	34	15	12
East	6	8	2	3	2	3	4	.....	3	9	3	2	4
S.E.	3	8	8	2	5	6	6	2	6	5	1	.....	4
South	8	19	25	44	37	17	23	13	21	4	.....	3	18
S.W.	9	27	34	44	41	31	22	38	18	7	1	2	23
West	9	12	10	3	5	10	4	23	7	14	8	17	10
N.W.	4	4	6	1	1	2	1	2	2	2	13	11	4
Calm	35	2	5	2	7	23	30	19	33	20	16	36	19
Resultant { Direction ...	N 30° E	S 22° W	S 30° W	S 22° W	S 22° W	S 33° W	S 9° W	S 52° W	S 18° W	N 26° E	N 10° E	N 29° W	.....
Resultant { Percentage	7	26	49	81	73	41	34	62	30	22	57	31	.....
Mean diurnal velocity in miles	45	63	81	143	165	97	74	77	57	59	64	29	.....

CUTTACK.

Average direction from 1868—74; *velocity from* 1871—74.

North	9	7	4	2	1	3	3	3	5	15	25	17	8
N.E.	16	11	6	4	4	3	3	4	10	24	17	19	10
East	17	12	6	5	6	5	3	4	11	11	5	10	8
S.E.	10	10	12	7	9	8	7	7	6	7	3	6	8
South	15	22	31	46	49	30	24	19	24	7	3	4	23
S.W.	8	16	19	22	21	29	29	27	16	6	3	4	17
West	9	13	13	5	3	14	17	20	8	8	13	12	11
N.W.	11	8	6	7	2	4	6	9	5	9	19	13	8
Calm	6	2	3	2	4	5	8	8	15	15	12	16	8
Resultant { Direction ...	E	S 6 W	S 16 W	S 13 W	S 4 W	S 26 W	S 38 W	S 47 W	S 3 W	N 34 E	N 12 W	N 8 E	.....
Resultant { Percentage	14	20	43	58	65	54	51	45	25	27	45	29	.....
Mean diurnal velocity in miles	43	62	85	130	138	116	91	74	65	54	41	34	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

SAUGOR ISLAND, 1874.

Four observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	14	14	6	.....	.....	.....	3	1	1	10	54	44	12
N.E.	19	9	2	.....	.....	5	8	3	4	20	27	20	10
East	14	12	3	2	1	5	9	2	3	9	4	1	5
S.E.	6	4	2	3	6	10	18	10	17	20	.....	.....	8
South	23	27	22	48	48	37	36	37	34	11	.....	4	27
S.W.	15	21	42	47	44	33	22	31	35	10	1	7	26
West	3	4	15	.....	.....	11	2	10	3	4	1	1	4
N.W.	6	9	7	2	1	.....	2	6	2	12	12	22	7
Calm	.....	.....	.....	.....	.....	.....	.....	.....	1	3	1	1	1
Resultant { Direction...	S 65° E	S 12° W	S 47° W	S 21° W	S 18° W	S 16° W	S 9° E	S 22° W	S 10° W	S 89° E	N 9° E	N 6° W	.....
Resultant { Percentage	15	19	60	87	87	66	55	64	67	17	82	65	.....
Mean diurnal velocity in miles	164	197	283	386	439	311	277	246	205	.....	.....	.....	.....

SAUGOR ISLAND.

Average direction from 1868—74; *velocity* 3 *to* 5 *years.*

North	23	15	8	1	2	1	1	2	2	18	35	28	11
N.E.	23	9	2	1	1	3	3	3	5	19	29	34	11
East	8	6	3	4	3	5	5	5	8	11	6	10	6
S.E.	4	2	2	5	5	8	10	12	12	8	2	2	6
South	12	20	18	30	41	35	27	21	30	12	3	4	21
S.W.	16	29	45	49	42	35	36	33	34	15	8	7	29
West	6	9	14	8	5	10	14	18	6	7	6	6	9
N.W.	8	6	8	2	2	2	4	5	4	10	12	10	7
Calm	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Resultant { Direction...	N 10 E	S 60 W	S 51 W	S 30 W	S 22 W	S 22 W	S 28 W	S 33 W	S 14 W	N 22 E	N 9 E	N 19 E	.....
Resultant { Percentage	20	27	59	74	76	66	59	53	56	12	56	53	.....
Mean diurnal velocity in miles	134	191	247	384	359	309	283	250	228	131	112	125	.....

CHITTAGONG, 1874.

Four observations daily.

North	37	24	15	4	3	3	3	.....	6	19	43	41	16
N.E.	9	20	10	3	6	9	5	2	7	10	11	3	8
East	2	10	15	9	11	27	26	28	23	13	5	1	14
S.E.	1	6	15	18	26	28	28	46	12	14	2	.....	16
South	1	3	7	22	22	16	15	14	8	2	1	1	9
S.W.	5	7	16	26	25	12	9	6	15	11	2	6	12
West	22	13	12	6	6	3	2	2	10	10	17	19	10
N.W.	24	17	10	2	.....	1	1	2	7	14	18	30	11
Calm	.....	.....	.....	12	1	1	11	1	12	7	1	.....	4
Resultant { Direction ...	N 31° W	N 3° W	N 72° E	S 2° W	S 12° E	S 51° E	S 50° E	S 49° E	S 46° E	N 5° E	N 16° W	N 34° W	.....
Resultant { Percentage	65	38	1	45	51	53	53	73	16	15	65	72	.....
Mean diurnal velocity in miles...	127	131	148	203	213	172	157	167	95	81	77	96	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND—(*Continued*).

CHITTAGONG—(*Continued*).

Average direction from 1868—74 ; *velocity from* 5 *to* 6 *years.*

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North		35	22	14	7	4	2	1	1	4	15	30	38	15
N.E.		11	12	8	5	6	5	4	5	7	11	16	9	8
East		6	8	7	9	11	20	26	23	22	14	7	5	13
S.E.		2	5	8	13	15	31	35	31	21	10	2	1	14
South		1	7	12	21	20	21	19	19	14	5	1	1	12
S.W.		7	13	23	24	27	12	9	13	16	11	4	5	14
West		20	17	16	11	10	5	2	4	5	15	17	18	12
N.W.		19	14	10	5	2	1	.....	1	3	12	20	23	9
Calm		.....	3	3	5	4	4	5	3	9	7	3	.....	4
Resultant	Direction ...	N 26 W	N 36 W	S 72 W	S 16 W	S 7 W	S 36 E	S 44 E	S 38 E	S 39 E	N 12 W	N 15 W	N 25 W	.....
	Percentage	53	28	22	35	40	55	64	56	37	12	52	61	.....
Mean diurnal velocity in miles...		127	133	154	187	181	189	185	158	124	90	97	110	.....

CALCUTTA, 1874.

Four observations daily.

North		14	8	8	.....	.....	1	.....	1	.....	15	40	51	11
N.E.		21	9	2	1	.....	.....	2	2	.....	8	10	4	5
East		7	18	2	3	4	7	12	2	1	14	33	1	9
S.E.		1	3	5	11	7	21	23	21	24	27	5	.....	12
South		14	12	26	59	60	56	53	69	64	16	.....	.....	36
S.W.		19	22	33	23	25	12	9	5	9	2	.....	6	14
West		9	18	13	2	2	3	1	.....	2	10	2	11	6
N.W.		15	11	11	1	1	1	.....	.....	.....	7	10	27	7
Calm		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Resultant	Direction ...	N 43° W	S 64° W	S 47° W	S 5° W	S 8° W	S 7° E	S 17° E	S 10° E	S 7° E	S 65° E	N 35° E	N 24° W	.....
	Percentage	18	17	53	82	84	78	78	87	87	25	62	76	
Mean diurnal velocity in miles		110	121	125	206	256	155	160	131	104	118	101	92	.....

CALCUTTA.

Average direction from 10 *years ; velocity from* 5 *to* 7 *years.*

North		32	15	7	2	3	3	2	2	5	20	41	39	14
N.E.		5	6	2	2	3	5	4	5	8	7	9	6	5
East		6	8	4	4	10	9	11	15	17	9	5	3	8
S.E.		2	4	4	11	18	14	18	18	17	8	2	1	10
South		10	21	39	60	51	45	47	39	32	16	2	5	31
S.W.		8	13	19	14	10	13	12	12	8	8	5	4	11
West		15	18	16	5	2	6	4	5	7	15	12	14	10
N.W.		20	14	8	2	2	3	1	2	4	14	23	27	10
Calm		2	1	1	.....	1	2	1	2	2	3	1	1	1
Resultant	Direction ...	N 38 W	S 79 W	S 33 W	S 3 W	S 12 E	S 5 E	S 12 E	S 18 E	S 30 E	N 53 W	N 19 W	N 27 W	.....
	Percentage..	40	23	47	74	65	58	65	55	40	13	58	60	.....
Mean diurnal velocity in miles...		99	107	134	202	212	193	151	130	124	91	86	91	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND—(*Continued*).

JESSORE, 1874.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	24	5	2	.....	.....	.....	.....	.....	2	11	42	37	10
N.E.	.....	2	.....	2	.....	2	.....	.....	3	16	17	13	5
East	3	4	2	3	.....	5	15	5	3	11	7	2	5
S.E.	5	4	5	17	13	37	42	47	30	27	3	.....	19
South	10	9	11	65	47	45	31	35	40	10	.....	.....	25
S.W.	13	30	52	8	36	10	10	3	20	8	.....	.....	15
West	10	25	18	.....	3	.....	.....	1	.....	2	7	6	6
N.W.	36	20	11	5	2	.....	.....	.....	.....	15	25	40	13
Calm	.....	2	.....	.....	.....	2	3	3	2	.....	.....	2	1
Resultant { Direction...	N 54° W	S 77° W	S 54° W	S 5° E	S 14° W	S 18°E	S 29° E	S 22° E	S 10° E	S 36° E	N 3° W	N 18° W	.....
Resultant { Percentage	46	54	71	78	82	81	77	80	72	25	69	79	.....
Mean diurnal velocity in miles	47	57	86	149	148	110	109	109	73	80	54	46	.....

JESSORE.

Average direction from 1868—74; *velocity from* 3 *to* 4 *years.*

North	27	9	4	2	1	1	.....	.....	.....	14	32	44	12
N.E.	13	6	4	3	3	3	.....	1	3	19	21	9	7
East	2	3	3	5	5	9	4	4	5	10	5	2	5
S.E.	4	6	9	18	30	33	42	37	43	20	3	3	21
South	4	7	12	35	31	40	33	31	25	10	2	1	19
S.W.	3	12	24	21	20	11	14	11	11	3	3	1	11
West	7	15	14	6	4	2	2	5	4	3	4	3	6
N.W.	31	32	25	8	2	2	1	4	2	10	17	23	13
Calm	11	10	5	3	3	1	6	3	3	11	12	14	7
Resultant { Direction...	N 18 W	N 65 W	S 74 W	S 8 W	S 9 E	S 19 E	S 17 E	S 15 E	S 23 E	N 73 E	N 7 E	N 8 W	.....
Resultant { Percentage	52	38	39	54	62	70	74	62	65	27	54	64	.....
Mean diurnal velocity in miles ...	45	53	78	129	128	137	114	101	87	66	48	47	.....

DACCA, 1874.

Four observations daily.

North	7	5	2	.....	1	.....	.....	1	2	7	37	28	8
N.E.	4	5	5	3	8	1	.....	.....	1	7	13	8	4
East	1	5	.....	7	2	8	10	11	4	7	1	.....	5
S.E.	3	5	9	24	15	30	31	42	16	21	1	1	16
South	9	17	28	43	50	33	38	24	33	16	.....	2	25
S.W.	13	21	37	10	15	10	10	4	16	7	1	8	13
West	17	15	7	.....	.....	.....	.....	.....	5	6	18	25	8
N.W	16	10	4	.....	1	.....	.....	1	.....	6	18	20	6
Calm	29	16	7	8	9	18	11	18	22	23	11	8	15
Resultant { Direction ...	N 88° W	S 53° W	S 27° W	S 14° E	S 7° E	S 21° E	S 20° E	S 34° E	S	S 33° E	N 20° W	N 46° W	.....
Resultant { Percentage	32	32	60	73	64	65	71	66	54	24	60	56	.....
Mean diurnal velocity in miles	50	80	117	198	228	144	176	157	111	82	57	55	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND—(*Continued*).

DACCA—(*Continued*).

Average direction from 1868—74; *velocity from* 1869—74.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North		18	7	3	5	2	.....	.....	1	2	10	25	22	8
N.E.		8	6	5	6	6	2	.....	1	2	11	14	10	6
East		3	3	3	7	10	8	6	5	8	8	3	2	6
S.E.		5	6	11	18	27	36	42	33	28	14	4	3	19
South.		8	15	30	42	38	39	41	40	30	13	3	3	25
S.W.		6	18	28	14	11	10	8	11	16	7	5	5	12
West		17	20	10	3	2	1	1	2	3	4	9	15	7
N.W.		24	18	8	3	2	1	.....	2	3	15	21	26	10
Calm		12	8	3	3	3	3	2	6	9	18	15	14	8
Resultant	Direction ...	N 47 W	S 76 W	S 25 W	S 9 E	S 21 E	S 21 E	S 21 E	S 15 E	S 13 E	N 86 E	N 15 W	N 33 W	.....
	Percentage	36	34	50	54	61	75	81	71	57	6	41	47	.....
Mean diurnal velocity in miles		50	67	108	158	168	200	194	150	122	63	42	46	.....

SILCHAR, 1874.

January and February four observations, other months two observations daily.

North		.....	2	.....	13	13	13	11	16	12	8	.....	.....	7
N.E.		6	6	10	8	10	12	11	8	8	11	13	5	9
East		16	21	28	27	23	22	23	24	17	15	22	30	22
S.E.		8	4	14	5	18	10	10	11	8	13	15	29	12
South		2	3	12	3	8	3	10	5	10	2	7	6	6
S.W.		9	7	10	8	3	5	11	13	7	5	8	8	8
West		6	8	8	15	8	17	10	8	12	11	8	5	9
N.W.		1	1	4	10	15	17	15	13	10	18	5	.....	9
Calm		52	47	12	10	3	2	.....	1	17	18	22	16	17
Resultant	Direction ...	S 51° E	S 75° E	S 55° E	N 31°E	N 72° E	N 14° E	N 62° E	N 52° E	N 51° E	N 17° E	S 67° E	S 56° E	.....
	Percentage	15	16	34	16	22	20	11	15	6	15	26	53	.....
Mean diurnal velocity in miles		25	37	55	93	107	92	86	78	57	47	40	42	.....

SILCHAR.

Average direction from 1869—71; *velocity from* 3 *to* 4 *years.*

North		2	3	3	7	8	12	9	5	7	6	5	3	6
N.E.		8	10	12	15	12	9	10	9	10	10	17	8	11
East		17	21	26	25	21	20	17	16	16	17	19	23	20
S.E.		14	13	13	12	12	9	10	9	10	12	16	20	12
South		14	11	8	9	9	9	10	10	11	11	9	14	11
S.W.		19	18	16	12	6	9	10	16	12	12	8	7	12
West		10	9	12	11	16	18	14	18	17	15	10	5	13
N.W.		2	2	4	6	10	9	11	9	10	7	3	1	6
Calm		15	13	6	4	7	6	8	8	8	11	12	20	10
Resultant	Direction ...	S 15 E	S 33 E	S 47 E	S 80 E	N 82 E	N 47 E	N 73 E	S 37 W	S 15 W	S 21 E	S 73 E	S 53 E	.....
	Percentage	30	26	22	20	10	4	2	12	7	11	26	39	.....
Mean diurnal velocity in miles		63	82	87	93	92	90	90	88	79	64	65	55	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND—(*Continued*).

HAZAREEBAGH, 1874.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	2	2	3	2	.....	3	5	3	7	10	13	5	5
N.E.	3	4	.....	5	2	7	11	10	8	21	10	2	7
East	6	7	3	2	5	20	23	23	22	21	3	2	11
S.E.	8	7	2	3	5	20	21	21	15	3	2	2	9
South	5	2	5	5	5	3	10	6	3	.....	.....	.....	4
S.W.	6	7	16	5	13	15	13	5	10	2	2	.....	8
West	20	36	40	28	34	15	8	11	10	15	20	21	22
N.W.	44	36	31	50	36	7	5	21	20	24	45	63	32
Calm	.....	.....	.....	.....	2	5	5	.....	5	5	5	6	3
Resultant { Direction ...	N 65° W	N 71° W	N 84° W	N 64° W	N 31° W	S 23° E	S 55° E	N 89° E	N 51° E	N 8° E	N 40° W	N 51° W	.....
Resultant { Percentage	51	54	69	67	59	22	30	15	9	39	65	79	.....
Mean diurnal velocity in miles	120	171	193	185	205	229	182	179	153	122	62	110	.....

HAZAREEBAGH.

Average direction from 1868—1874; *velocity from* 5 *to* 6 *years.*

North	11	9	6	7	10	5	3	4	7	12	15	10	8
N.E.	4	2	1	5	4	6	8	6	8	8	9	3	5
East	3	2	2	5	8	9	17	12	19	7	3	2	7
S.E.	5	5	4	9	12	18	20	16	25	3	2	4	11
South	8	5	7	11	16	21	17	12	13	6	3	5	10
S.W.	7	9	15	11	10	14	10	11	8	8	7	7	10
West	24	30	29	19	14	13	14	22	8	18	21	23	20
N.W.	39	39	37	35	26	13	10	14	10	32	37	45	28
Calm	.....	.....	.....	.....	.....	.....	1	3	3	3	3	2	1
Resultant { Direction ...	N 62 W	N 67 W	N 79 W	N 74 W	S 86 W	S 14 W	S 21 E	S 44 W	S 53 E	N 50 W	N 47 W	N 59 W	.....
Resultant { Percentage	54	61	62	39	20	26	24	18	27	36	56	61	.....
Mean diurnal velocity in miles	103	133	156	168	193	210	179	154	143	107	81	89	.....

BERHAMPORE, 1874.

Two observations daily.

North	21	5	8	7	5	.....	2	.....	2	11	58	37	13
N.E.	10	13	5	12	3	7	3	6	7	23	12	6	9
East	6	2	.....	3	10	20	10	21	5	16	.....	.....	8
S.E.	5	5	3	17	13	32	39	45	23	15	.....	.....	16
South	5	5	3	17	21	23	21	21	30	5	.....	2	13
S.W.	10	20	27	27	32	13	13	6	23	10	.....	8	16
West	15	27	39	12	8	2	8	.....	2	10	7	10	12
N.W.	24	20	10	3	6	.....	3	.....	3	8	20	37	11
Calm	5	4	5	3	2	3	2	.....	5	3	3	.....	3
Resultant { Direction ...	N 36° W	N 33° W	S 84° W	S 18° W	S 19° W	S 36° E	S 21° E	S 45° E	S 6° E	N 61° E	N 9° W	N 31° W	.....
Resultant { Percentage	37	40	60	31	44	62	55	75	54	23	32	71	.....
Mean diurnal velocity in miles	39	60	66	175	226	149	134	147	119	.....	.....	.....	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

BERHAMPORE.—(*Continued.*)

Average direction from 1868—74; *velocity from* 4 *to* 5 *years.*

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North		22	13	8	4	4	2	1	2	5	14	29	30	11
N.E.		12	8	5	10	9	11	9	13	15	15	9	9	10
East		3	4	2	10	20	18	21	17	15	8	3	2	10
S.E.		2	4	6	13	20	24	31	29	25	10	2	1	14
South		2	6	7	21	21	28	20	15	16	6	2	1	12
S.W.		7	14	24	19	12	10	11	12	11	9	5	4	12
West		18	23	27	11	8	4	2	4	3	10	13	12	11
N.W.		27	20	12	7	4	2	2	2	3	13	23	29	12
Calm		7	9	8	5	3	1	4	6	9	16	14	13	8
Resultant	Direction ...	N 36 W	N 67 W	S 78 W	S 5 W	S 35 E	S 36 E	S 44 E	S 47 E	S 52 E	N 2 E	N 26 W	N 27 W	.....
	Percentage	50	37	43	28	38	50	56	46	39	14	50	59	.....
Mean diurnal velocity in miles		37	47	63	114	137	145	117	98	89	44	32	26	.....

GYA, 1874.

Two observations daily.

North		15	5	3	18	19	5	8	3	3	11	13	15	10
N.E.		11	7	2	5	.....	5	15	11	3	13	13	10	8
East		11	20	8	8	2	33	27	24	15	19	20	3	16
S.E.		7	4	3	2	.....	12	19	24	18	16	12	3	10
South		2	7	21	3	.....	5	6	6	5	8	2	3	6
S.W.		3	7	3	2	2	12	6	2	2	2	2	11	5
West		16	29	27	25	69	.....	3	3	2	2	3	23	17
N.W.		10	5	8	8	8	5	8	10	5	10	10	29	10
Calm		24	14	24	28	.....	24	6	16	47	19	25	3	19
Resultant	Direction ...	N 4° W	S 87° W	S 57° W	N 41° W	N 73° W	S 73° E	S 89° E	S 80° E	S 67° E	N 78° E	N 54° E	N 54° W	.....
	Percentage	21	10	28	29	78	35	38	39	26	31	32	48	.....
Mean diurnal velocity in miles		48	73	106	92	120	69	41	60	41	48	25	45	.....

GYA.

Average direction from 1869—74; *velocity from* 3 *to* 4 *years.*

North		7	7	2	9	17	8	5	2	4	8	14	9	8
N.E.		12	6	5	4	12	11	9	8	7	9	8	5	8
East		13	9	7	15	26	40	32	23	34	9	9	9	19
S.E.		6	4	5	4	6	11	14	13	17	11	7	5	9
South		6	7	8	7	4	7	9	9	7	11	7	8	8
S.W.		5	7	13	9	2	5	7	11	4	6	3	4	6
West		14	25	30	20	14	7	10	14	4	12	14	22	15
N.W.		19	17	18	16	11	6	3	6	6	13	16	18	12
Calm		18	18	12	16	8	5	12	15	18	21	23	21	16
Resultant	Direction ...	N 23 W	N 74 W	S 86 W	N 66 W	N 33 E	N 87 E	S 72 E	S 41 E	S 78 E	N 79 W	N 25 W	N 63 W	.....
	Percentage	16	26	37	18	28	41	34	20	41	2	18	24	.....
Mean diurnal velocity in miles		50	64	86	78	89	80	64	54	60	35	31	36	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

PATNA, 1874.

Two observations daily.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North		.....	.....	3	2	2	.....	2	.....	.....	3	2	.....	1
N.E.		3	5	2	5	3	7	2	6	2	3	7	.....	4
East		8	16	15	23	26	50	58	56	45	47	17	.....	30
S.E.		10	5	6	17	13	18	10	21	10	8	5	.....	10
South		5	5	10	.....	3	3	3	6	3	3	5	6	5
S.W.		13	20	18	7	10	5	6	5	3	3	20	24	12
West		47	43	44	40	39	5	5	2	17	21	35	61	30
N.W.		10	5	2	7	5	2	2	3	10	5	3	3	6
Calm		5	.....	2	.....	.....	5	3	.....	5	2	2	.....	2
Resultant	Direction...	S 72° W	S 67° W	S 60° W	S 59° W	S 45° W	S 72° E	S 74° E	S 75° E	S 71° E	N 88° E	S 71° W	S 78° W	.....
	Percentage	47	40	43	13	17	61	58	71	25	32	32	36	.....
Mean diurnal velocity in miles		74	101	129	132	143	131	103	110	86	71	47	68	.....

PATNA.

Average direction from 1868—74; *velocity from* 3 *to* 4 *years.*

North		4	6	7	8	12	9	7	1	2	6	7	5	6
N.E.		7	8	5	16	21	21	14	9	12	13	14	5	12
East		5	9	6	14	20	25	31	23	27	15	9	6	16
S.E.		3	4	2	7	8	11	12	16	20	10	4	3	8
South		2	3	2	.....	.....	1	2	3	2	5	4	3	3
S.W.		11	11	12	5	4	3	7	9	6	10	10	11	8
West		27	23	24	14	11	7	5	9	8	13	13	27	16
N.W.		22	24	32	29	16	9	9	5	4	13	17	22	17
Calm		19	12	11	7	3	13	12	20	20	17	13	19	15
Resultant	Direction...	N 74 W	N 65 W	N 64 W	N 14 W	N 72 E	N 59 E	N 78 E	S 57E	S 80 E	N 31 E	N 44 W	N 73 W	.....
	Percentage	41	35	49	31	33	37	34	26	35	5	21	40	.....
Mean diurnal velocity in miles		64	82	107	140	140	104	88	90	93	59	51	50	.....

MONGHYR, 1874.

Two observations daily.

North		5	2	6	10	6	.....	6	5	10	8	2	.....	5
N.E.		8	9	11	15	23	17	13	8	20	13	2	.....	12
East		11	13	6	28	11	68	45	48	25	24	2	2	24
S.E.		.....	2	2	.....	21	7	19	14	3	3	.....	.....	6
South		2	2	2	.....	.....	3	3	5	2	2	.....	5	2
S.W.		32	36	29	8	.....	2	8	8	23	16	30	45	20
West		27	27	26	20	16	3	2	5	13	27	38	39	20
N.W.		11	7	16	13	23	.....	2	2	3	.....	23	5	9
Calm		3	4	2	.....	.....	.....	2	5	.....	6	3	5	3
Resultant	Direction ...	S 82° W	S 68° W	N 87° W	N	N 23° E	N 88° E	S 84° E	S 80° E	N 57° E	N 00° W	S 89° W	S 65° W	....
	Percentage.	42	40	42	28	26	80	60	53	11	4	73	80	.....
Mean diurnal velocity in miles		49	71	89	85	98	101	64	72	58	46	33	38	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

MONGHYR.—(*Continued.*)

Average direction from 1869—74; *velocity from* 1871—74.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	3	3	4	7	6	2	2	3	5	6	7	2	4
N.E.	5	6	8	16	21	22	13	9	12	10	4	4	11
East	5	8	12	30	32	45	43	31	33	13	2	2	21
S.E.	1	2	3	4	11	15	13	10	12	4	1	1	7
South	3	3	1	1	1	2	2	3	3	3	1	5	2
S.W.	33	28	20	10	6	4	6	15	11	13	25	33	17
West	28	25	27	14	10	4	4	10	6	19	28	30	17
N.W.	8	7	12	10	7	3	2	2	2	5	10	4	6
Calm	16	13	14	9	6	4	10	16	17	21	21	20	4
Resultant { Direction ...	S 72 W	S 72 W	N 89 W	N 48 E	N 70 E	N 85 E	S 83 E	S 67 E	S 82 E	S 84 W	S 88 W	S 67 W	.....
Resultant { Percentage	50	39	30	22	38	63	56	25	35	13	48	55	.....
Mean diurnal velocity in miles	55	64	78	96	93	98	75	76	56	35	32	37	.....

DARJEELING, 1874.

Four observations daily.

North	1	2	.....	.....	2	2	4	1	1	2	2	1	2
N.E.	1	4	2	1	9	9	8	4	3	4	5	9	5
East	15	11	15	22	20	31	23	20	32	26	26	15	21
S.E.	13	6	15	14	9	18	9	23	19	16	16	7	14
South	12	12	16	12	7	10	4	14	5	10	4	7	10
S.W.	21	19	16	13	19	8	18	11	11	12	12	20	15
West	23	29	23	28	24	18	20	20	19	18	20	22	22
N.W.	10	16	11	9	9	5	9	7	8	6	11	12	9
Calm	3	2	2	2	2	1	5	1	2	5	4	7	3
Resultant { Direction ...	S 37° W	S 70° W	S 28° W	S 25° W	S 41° W	S 56° E	S 28° W	S 10° E	S 41° E	S 24° E	S 20° E	S 30° W	.....
Resultant { Percentage	34	39	33	26	17	28	8	29	23	23	13	21	.....

DARJEELING.

Average from 1868—74.

North	1	1	1	1	1	1	1	.....	1	1	1	2	1
N.E.	2	2	1	1	3	3	3	3	4	3	3	3	3
East	21	21	21	22	21	26	31	29	28	24	22	20	24
S.E.	13	10	11	11	14	18	21	19	17	12	15	15	15
South	5	4	5	5	6	6	4	9	6	5	5	7	6
S.W.	12	13	12	11	12	11	9	10	11	9	10	14	11
West	34	37	38	37	34	31	25	24	24	31	27	27	31
N.W.	12	11	12	14	9	4	4	5	10	13	13	9	10
Calm	1	1	1	1	1	1	2	1	1	2	3	4	
Resultant { Direction ...	S 57 W	S 66 W	S 66 W	S 70 W	S 46 W	S 2 W	S 35 E	S 20 E	S 16 E	S 57 W	S 43 W	S 33 W	.....
Resultant { Percentage	22	27	27	26	21	20	23	24	15	14	14	20	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

GOALPARA, 1874.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	10	7	5	7	8	.....	10	2	2	5	2	3	5
N.E.	16	13	18	28	24	8	13	8	13	29	15	6	16
East	32	29	37	42	42	25	15	13	13	29	45	53	31
S.E.	5	7	3	5	3	8	6	8	10	3	10	5	7
South	5	2	.....	.....	2	5	11	18	5	6	3	.....	5
S.W.	5	4	3	2	2	15	13	13	13	5	2	.....	6
West	13	27	23	3	2	12	11	10	18	3	.....	2	10
N.W.	13	9	10	7	6	10	13	7	5	6	.....	.....	7
Calm	2	4	2	7	6	17	3	26	20	13	23	30	13
Resultant Direction...	N 49° E	N 28° E	N 46° E	N 65° E	N 70° E	S 41° E	N 24° W	S 6° W	S 12° W	N 66° E	N 80° E	N 86° E	.....
Resultant Percentage	28	15	23	62	61	11	3	25	7	44	61	60	.....
Mean diurnal velocity in miles	93	120	130	174	175	109	77	60	52	85	70	65	.....

GOALPARA.

Average direction from 1868—74; *velocity from* 5 *to* 6 *years.*

North	4	6	6	4	3	5	4	4	4	3	2	4	4
N.E.	9	12	13	12	9	9	8	6	9	14	11	12	10
East	46	38	43	46	51	35	33	23	36	46	55	51	42
S.E.	8	11	9	11	9	8	10	9	9	9	9	12	9
South	3	3	3	6	8	13	14	16	9	8	4	4	8
S.W.	9	10	7	8	5	8	11	14	11	7	5	6	8
West	16	16	16	8	10	13	14	19	14	9	7	6	12
N.W.	4	4	4	4	4	7	5	6	6	4	2	2	4
Calm	.....	.....	.....	1	1	2	1	3	2	1	6	3	2
Resultant Direction...	S 87 E	E	N 85 E	S 86 E	S 83 E	S 71 E	S 53 E	S 1 W	S 69 E	S 85 E	S 87 E	S 87 E	.....
Resultant Percentage	33	29	35	45	49	25	26	20	24	46	56	56	.....
Mean diurnal velocity in miles	87	118	163	184	176	127	100	101	106	92	100	81	.....

BENARES, 1874.

Two observations daily.

North	.....	4	2	2	3	7	2	3	7	18	13	5	5
N.E.	15	5	6	2	8	20	15	8	7	11	2	2	8
East	19	14	8	12	3	27	29	37	22	19	2	8	17
S.E.	3	5	.....	3	.....	7	13	6	13	2	5	2	5
South	8	4	11	7	.....	12	6	2	5	3	5	6	6
S.W.	10	7	18	3	5	10	10	16	5	8	13	13	10
West	42	55	43	38	66	8	16	14	27	21	33	47	34
N.W.	.....	.....	10	33	15	3	10	13	15	18	27	18	14
Calm	3	5	2	.....	.....	7	.....	.....	.....	.....	.....	.....	1
Resultant Direction ...	S 68° W	S 83° W	S 77° W	N 73° W	N 77° W	S 89° E	S 79° E	N 88° E	N 51° W	N 21° W	N 74° W	N 88° W	.....
Resultant Percentage	18	39	51	51	73	28	9	12	6	30	57	58	.....
Mean diurnal velocity in miles	80	108	130	121	197	128	106	102	86	68	52	76	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

BENARES.—(*Continued.*)

Average direction from 1865—74; *velocity from* 1869—74.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North		3	3	3	5	7	4	3	2	3	5	6	4	4
N.E.		9	7	4	4	10	11	8	7	9	6	5	4	7
East		11	10	10	6	16	20	27	24	25	13	10	10	15
S.E.		4	5	4	7	6	8	8	11	9	4	4	2	6
South		2	2	5	3	3	3	5	5	6	3	3	3	4
S.W.		9	10	9	8	6	9	16	13	8	10	11	7	10
West		30	39	42	38	27	19	22	21	22	35	32	42	31
N.W.		13	11	15	19	16	13	5	7	8	15	15	16	13
Calm		18	12	9	9	8	9	7	10	10	10	15	13	11
Resultant	Direction ...	N 75 W	N 84 W	N 86 W	N 81 W	N 40 W	N 49 W	S 15 E	S 3 E	S 59 E	N 78 W	N 79 W	N 78 W	.....
	Percentage	26	37	45	43	21	2	10	10	5	34	34	45	.....
Mean diurnal velocity in miles		57	77	83	79	109	102	96	81	70	54	29	45	.....

ROORKEE, 1874.

Four observations daily.

North		.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....
N.E.		2	2	6	1	4	1	.....	2	2	1	.....	.....	2
East		.....	.....	2	3	.....	.....	1	.....	1	2	5	3	1
S.E.		11	6	7	18	1	33	36	23	22	16	8	9	16
South		2	.....	.....	2	1	1	2	1	2	1	1	.....	1
S.W.		13	.....	2	7	2	1	2	11	10	7	4	8	6
West		2	.....	1	.....	.....	1	.....	.....	.....	.....	.....	3	1
N.W.		24	42	32	20	52	7	2	3	5	3	5	10	17
Calm		46	50	50	50	40	56	57	60	57	70	76	66	56
Resultant	Direction...	W	N 42° W	N 34° W	S 31° W	N 44° W	S 42° E	S 40° E	S 18° E	S 19° E	S 26° E	S 36° E	S 55° W	.....
	Percentage	20	36	25	55	51	26	36	22	20	16	8	8	.....
Mean diurnal velocity in miles		45	52	67	58	78	96	76	71	53	37	21	31	.....

ROORKEE.

Average direction from 1865-74; *velocity from* 6 *to* 9 *years.*

North		1	1	1	1	1	1	.....	1	1	.....	.....	1	1
N.E.		4	7	5	7	5	5	3	3	3	3	2	2	4
East		1	2	2	2	1	3	3	2	2	2	1	1	2
S.E.		9	7	6	15	20	26	36	30	20	18	13	11	18
South		2	1	2	2	3	4	3	1	1	3	1	.....	2
S.W.		8	2	4	7	6	8	4	6	8	4	4	5	5
West		2	4	7	6	4	4	2	3	4	2	1	5	4
N.W.		24	30	26	19	26	15	6	8	12	10	9	16	17
Calm		50	45	48	43	35	35	43	46	49	58	69	60	49
Resultant	Direction...	N 66 W	N 37 W	N 54 W	N 77 W	N 81 W	S 18 E	S 40 E	S 34 E	S	S 30 E	S 18 E	N 74 W	.....
	Percentage	15	24	22	7	8	13	33	23	9	11	5	9	.....
Mean diurnal velocity in miles		44	55	58	62	79	86	68	52	37	25	22	28	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Continued.*)

NANCOWRY, 1874.

Two observations daily.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North	.....	.....	6	10	.....	5	.....	.....	.....	6	8	3	3
N.E.	3	4	19	8	.....	2	2	.....	.....	6	17	42	9
East	73	77	52	18	.....	.....	.....	.....	.....	.....	33	37	24
S.E.	23	20	13	28	3	.....	2	.....	.....	3	13	6	9
South	2	.....	3	7	10	5	.....	.....	2	.....	10	3	4
S.W.	.....	.....	3	5	57	38	21	53	88	24	8	2	25
West	.....	.....	3	13	31	35	68	47	10	27	3	.....	20
N.W.	.....	.....	.....	10	.....	15	8	.....	.....	32	5	6	6
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Resultant { Direction...	S 80° E	S 83° E	N 85° E	S 70° E	S 53° W	S 78° W	S 84° W	S 66° W	S 48° W	N 77° W	S 88° E	N 66° E	.....
Resultant { Percentage	92	94	69	22	86	73	86	92	97	62	42	72	.....
Mean diurnal velocity in miles	265	227	178	134	231	295	320	314	267	188	.....	195	.....

BURDWAN, 1874.

Two observations daily.

North	18	20	3	3	2	.....	.....	.....	3	16	40	32	11
N.E.	10	5	2	2	.....	.....	.....	3	.....	18	20	6	5
East	3	9	2	2	6	17	27	23	12	18	3	.....	10
S.E.	3	4	3	12	3	13	23	35	13	13	.....	.....	10
South	8	2	8	27	34	37	23	23	38	6	2	.....	17
S.W.	15	13	24	25	29	20	19	11	15	6	.....	.....	15
West	23	30	44	22	19	8	2	3	8	6	10	21	16
N.W.	21	18	15	8	2	.....	.....	.....	3	8	17	24	10
Calm	.....	.....	.....	.....	5	5	6	1	7	8	8	16	5
Resultant { Direction...	N 62° W	N 58° W	S 79° W	S 39° W	S 31° W	S 3° E	S 28° E	S 36° E	S	N 58° E	N 4° W	N 32° W	.....
Resultant { Percentage	42	43	67	54	63	60	59	66	53	27	64	63	.....
Mean diurnal velocity in miles	45	67	105	159	230	141	133	110	96	80	55	50	.....

PURNEAH, 1874.

Two observations daily.

North	.....	.....	.....	.....	.....	2	3	.....	3	.....	7	3	.....
N.E.	.....	.....	.....	.....	.....	53	26	18	17	13	12	3	.....
East	.....	.....	.....	.....	.....	27	45	52	28	37	12	.....	.....
S.E.	.....	.....	.....	.....	.....	17	13	19	13	21	.....	.....	.....
South	.....	.....	.....	.....	.....	.....	.....	5	5	5	2	.....	.....
S.W.	.....	.....	.....	.....	.....	2	6	5	12	5	8	19	.....
West	.....	.....	.....	.....	.....	.....	3	2	8	15	28	48	.....
N.W.	.....	.....	.....	.....	.....	.....	3	.....	13	5	30	26	.....
Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Resultant { Direction ...	.....	.....	.....	.....	.....	N 71° E	N 81° E	S 88° E	N 85° E	S 75° E	N 51° W	N 83° W	.....
Resultant { Percentage	.....	.....	.....	.....	.....	79	63	73	24	41	46	79	.....

TABLE XXXII.—PERCENTAGE OF WIND DIRECTIONS, RESULTANTS, AND MEAN DIURNAL MOVEMENT OF THE WIND.—(*Concluded.*)

SIBSAGAR, 1874.

Two observations daily.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North		.....	.....	36	38	48	18	23	11	15	19	35	16	.....
N.E.		.....	.....	27	20	18	17	14	18	18	44	45	29	.....
East		.....	.....	10	2	5	7	2	10	5	11	5	18	.....
S.E.		.....	.....	8	5	2	8	5	10	13	3	3	8	.....
South		.....	.....	10	5	5	25	34	29	15	.....	3	8	.....
S.W.		.....	.....	2	6	6	12	10	14	12	2	.....	10	.....
West		.....	.....	.....	5	3	7	6	.....	17	8	.....	6	.....
N.W.		.....	.....	6	13	6	7	10	5	3	5	3	3	.....
Calm		.....	.....	2	5	6	.....	.....	3	2	8	5	2	.....
Resultant	Direction	.....	.....	N 34° E	N	N 6° E	S 49° E	S 47° W	S 39° E	S 3° E	N 32° E	N 30° E	N 37° E	.....
	Percentage	.....	.....	52	40	55	6	10	24	2	59	73	34	.....
Mean diurnal velocity in miles		51	73	85	70	110	80	80	70	67	38	43	33	.....

TABLE XXXIII.—WIND RESULTANTS OF ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND BERAR FOR 1874.

	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
Agra ... 1874	...	N 42 W	...	N 82 W	...	N 78 W	...	N 83 W	...	N 74 W	...	N 62 E	...	N 58 E	...	N 23 E	...	N 82 W	...	N 80 W	...	N 81 W	...	N 61 W
Agra ... Average 6 to 7 years	27	N 56 W	36	N 62 W	37	N 55 W	29	N 79 W	26	N 68 W	21	N 48 W	20	N 48 E	14	S 37 E	17	N 24 W	27	N 85 W	21	S 78 W	20	N 65 W
Jhansi ... 1874	...	N 33 E	...	N 16 E	...	N 57 W	...	N 55 W	...	N 86 W	...	N 24 E	...	S 15 W	...	S 62 W	...	N 63 W	...	N 1 W	...	N 18 E	...	N 3 W
Jhansi ... Average 3 to 6 years	20	N 19 W	20	N 70 W	12	S 40 W	28	S 84 W	33	N 62 W	18	N 72 W	33	S 81 W	17	W	38	N 51 W	28	N 59 W	25	N 53 W	20	N 8 W
Ajmere ... 1874	...	N 40 E	...	N 27 E	...	S 41 W	...	S 77 W	...	S 63 W	...	S 58 W	...	S 65 W	...	S 60 W	...	?	...	N. 57 W	...	N 35 E	...	N 78 E
Ajmere ... Average 6 to 7 years	10	N 62 E	14	S 75 W	21	S 46 W	52	S 69 W	73	S 59 W	67	S 60 W	69	S 63 W	53	S 68 W	34	S 68 W	48	S 87 W	11	N 37 W	8	N 73 E
Goruckpore	...	S 78 W	...	N 75 W	...	N 87 W	...	N 82 W	...	N 23 W	...	S 71 E	...	S 70 E	...	S 67 E	...	N 15 E	...	?	...	N 80 W	...	N 74 W
Allahabad	...	N 70 W	...	N 87 W	...	S 71 W	...	S 86 W	...	N 83 W	...	S 79 W	...	S 75 E	...	N 38 E	...	N 9 E	...	N 57 E	...	N 48 W	...	S 64 W
Bareilly	...	N 48 W	...	N 67 W	...	N 75 W	...	N 68 W	...	N 59 W	...	S 75 E	...	S 63 E	...	E	...	S 30 E	...	S 88 W	...	N 44 W	...	N 71 W
Meerut	...	N 42 W	...	N 44 W	...	N 44 W	...	N 46 W	...	N 52 W	...	N 52 E	...	N 83 E	...	N 80 E	...	N 12 W	...	N 45 W	...	N 45 W	...	N 45 W
Nagpore ... 1874	26	S 83 E	23	N 16 E	16	N 32 W	30	N 41 W	37	N 49 W	58	N 89 W	48	N 89 W	84	N 79 W	18	N 11 W	75	N 39 E	74	N 72 E	73	N 89 E
Nagpore ... Average 5 to 6 years	36	N 87 E	18	N 49 E	8	S 56 E	21	N 71 W	43	N 48 W	54	N 81 W	65	S 80 W	64	N 75 W	37	N 36 W	67	N 36 E	66	N 67 E	59	N 72 E
Jubbulpore ... 1874	22	N 61 E	26	N 24 W	32	S 89 W	58	N 82 W	46	N 85 W	58	S 67 W	50	S 62 W	88	S 84 W	38	N 47 W	66	N 11 E	40	N 45 E	36	N 18 E
Jubbulpore ... Average 5 to 6 years	22	N 15 E	15	N 18 W	26	S 77 W	26	N 79 W	43	N 69 W	62	S 79 W	62	S 80 W	70	S 79 W	36	N 71 W	21	N 10 E	27	N 38 E	24	N 37 E
Seoni ... 1874	27	S 74 E	23	N 27 W	43	S 87 W	34	N 58 W	50	N 66 W	46	S 60 W	27	S 48 W	62	S 78 W	11	N 22 E	67	N	72	N 54 E	35	N 57 E
Seoni ... Average 5 to 6 years	22	S 89 E	14	N 17 W	5	N 61 W	25	N 72 W	33	N 53 W	42	S 69 W	55	S 67 W	47	S 81 W	28	N 52 W	60	N 15 E	58	N 53 E	35	N 27 E
Saugar	23	N 62 E	31	N 29 W	38	N 88 W	44	N 71 W	58	N 81 W	67	S 80 W	64	S 66 W	80	S 70 W	48	N 63 W	81	N 27 E	69	N 50 E	37	N 69 E
Hoshungabad	35	N 35 E	55	S 45 W	30	S 21 E	38	S 65 W	39	S 55 W	74	S 68 W	43	S 21 E	32	S 3 W	49	N 45 W	26	N 77 E	62	N 68 E	77	N 50 E
Chanda	22	S 33 E	24	S 34 W	28	N 73 W	35	S 82 W	35	S 78 W	36	S 80 W	58	N 78 W	57	N 42 W	30	N 52 E	53	N 27 E	44	N 71 E	37	N 89 E
Raipore	47	S 33 E	25	S	38	S 1 W	37	S 68 W	41	S 86 W	65	S 67 W	63	S 58 W	83	N 75 W	58	S 12 E	44	S 47 E	60	N 31 E	61	N 42 E
Akola	11	N 61 W	22	N 25 W	38	N 62 W	31	N 80 W	64	N 71 W	67	N 88 W	94	S 84 W	93	N 84 W	80	S 81 W	20	N 30 E	86	N 75 E	92	N 89 E
Omraoti	66	N 42 W	46	N 52 W	73	N 56 W	37	N 11 W	47	N 26 W	59	N 68 W	41	N 65 W	75	N 60 W	25	N 83 W	58	N 75 E	82	S 83 E	82	S 69 E

TABLE XXXIV.—MEAN DIURNAL MOVEMENT OF WIND AT ADDITIONAL STATIONS IN THE NORTH-WESTERN AND CENTRAL PROVINCES AND CEYLON IN 1874.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Allahabad	?	40	?	?	?	39	66	62	?	?	?	?	?
Lucknow	65	89	103	98	126	106	54	58	38	26	?	?	?
Agra	78	102	123	116	197	113	103	117	73	62	25	53	97
Bareilly	50	66	77	89	118	73	58	94	80	?	45	61	?
Meerut	56	65	81	62	82	70	57	49	73	40	25	73	61
Akola	81	97	106	127	212	176	171	178	108	80	79	79	125
Omraoti	107	106	83	95	138	160	154	170	52	69	84	79	108
Nagpore 1874	77	116	125	128	159	111	147	151	62	84	59	41	105
Nagpore ... ... Average of 4 to 6 years...	67	90	94	119	150	156	167	131	109	86	70	59	108
Jubbulpore ... 1874	76	92	105	114	137	158	138	172	84	83	58	59	106
Jubbulpore ... Average of 5 to 6 years...	63	63	79	89	117	147	132	121	89	56	49	54	88
Seoni	51	70	67	61	75	116	88	110	79	78	52	45	74
Saugor	44	63	79	57	59	71	54	81	20	29	15	26	50
Hoshungabad	79	72	67	64	85	76	53	69	30	37	50	60	62
Chanda	56	62	69	79	105	106	102	96	45	44	39	35	70
Raipore	54	132	83	112	136	68	44	32	?	?	?	?	?
Jaffna	75	78	134	168	302	292	267	270	238	231	71	88	185
Trincomalee	253	192	160	155	367	444	424	355	368	306	149	183	280
Colombo	160	97	104	107	166	199	187	180	239	175	90	127	153
Galle	39	33	69	84	182	220	157	147	211	112	?	?	?

It was remarked in the report of the meteorology of 1873 that in the cold-weather months of that year, while the winds in Central India, Bengal Proper, and Orissa were much more northerly than usual, they were much more southerly in Behar and at Benares, as well as Darjeeling. In January 1874, however, the winds became less steady and more westerly than usual in Bengal Proper, while in Central India they became more easterly, apparently circulating round a region of relatively high temperature, and, probably, low pressure in east Berar. At Benares and Patna as well as Darjeeling the winds continued more southerly than usual, while they were more northerly at Gya and Monghyr. In Orissa they became very variable, and there was but a slight excess of northerly over southerly directions. At Saugor Island the southerly and easterly components predominated. On the other hand, in Assam, southerly components were deficient, and at Goalpara the winds were more northerly, and at Cachar more easterly, than in former years. At Chittagong and Akyab they were steadier than usual and slightly more westerly. At Madras (resultant direction N.E.) and at Port Blair (direction N.N.E.) the winds were very steady. Such was also the case at Nancowry, where east was the prevailing direction, 73 per cent. of the observations being from that quarter.

Except in the Central Provinces, where the winds mostly returned to their normal quarters, the peculiarities of the preceding month were, in a great measure, persistent in February. Throughout the whole of Behar and Bengal, and in parts of the North-Western Provinces, northerly winds were below the average, while those from westerly quarters were more frequent than usual. On the other hand, in Assam and at Chittagong, northerly components were above the average. At Goalpara, however, westerly winds were almost as frequent as easterly, which is not generally the case in this month. At Silchar calms and easterly winds were unusually prevalent. In March the unusual prevalence of westerly winds, which now extended through the greater part of the Central Provinces, became still more strongly marked. In Behar and the North-Western Provinces the winds were more southerly, and in Bengal they were steadier and more westerly than usual. It has been stated, at page 17, that in this month the region of low pressure from Hazareebagh to Lucknow had developed so as to include the whole of Behar and the western parts of the delta, and northwards, and the greater portion of the North-Western Provinces. All over Northern India the winds were drawn towards, and circulated round, this region, bounded on the south, east, and west by the isobar of 29·85 inches, in which the pressure was not only below the average for the season, but low relatively to that of surrounding regions. The southerly deviation of the winds in the North-Western Provinces and Behar, their westerly deviation in Bengal, and the deficiency of northerly components, is thus fully accounted for. In Assam and at Chittagong, in consequence of the high pressure to the northwards and eastwards, winds from these quarters continued above the average.

The southerly coast winds in April were unusually strong and steady, but, as the region of low pressure moved further westwards and southwards, the winds in the eastern part of the delta became more easterly than usual, while in Orissa and Western Bengal a slight westerly deviation still continued. At Hazareebagh and in Behar, as well as at Benares, the southerly tendency of the winds, which had been persistent throughout the cold-weather months, disappeared, and, except at Patna, they became more northerly than the average. In Assam a north-easterly prevalence was strongly marked.

Throughout Lower Bengal and Orissa the sea winds in May were unusually steady and powerful, and more westerly than they generally are in this month. Such was also the case at Madras, while at Port Blair southerly winds were above the average. At Hazareebagh, Gya, and Benares, and in the Central Provinces, the winds were also more westerly than usual, while at Monghyr, which was now to the east of the region of minimum pressure, they were more northerly. In Assam northerly, and at Chittagong easterly, components continued above the average, while the prevailing direction was south-west at Akyab. It has been stated, at page 17, that in this month the atmospheric pressure was abnormally low over Northern India, but excessively so in Behar

and in parts of the North-Western Provinces, where, indeed, the minimum of mean monthly pressures was reached in May instead of June. The temperature in the same region had been excessively high from the commencement of April, and this probably accounts for the abnormally low pressure in May. As a consequence of the excessively low pressure in the region above-mentioned, the sea winds in the early part of the month were unusually powerful and steady, and towards the end of the month the south-west monsoon current prevailed over the whole of the Bay of Bengal, considerably before its accustomed time. The westerly deviation of the winds, from south towards west in Bengal, and from north-west towards west in the Central Provinces, was also due to the abnormally low pressure which existed in the south-western districts of Behar, and in the region lying north of the Ganges from Benares to Roorkee. In normal years the low-pressure region in this month lies south of the Ganges, in the North-Western Provinces, instead of to the north, as in 1874.

The winds of the delta in June were characterized by remarkable steadiness from normal southerly quarters, and by the almost entire absence of northerly and variable elements. Notwithstanding this, however, and probably in consequence of the *comparatively* high pressure over the same region, the mean movement of the wind was considerably below the average. Along the coast-line, round the head of the Bay, the winds were much less steady. At Cuttack south winds were deficient, while those from south-west, north, and north-east were above the average, and calms were unusually frequent. At False Point the winds were also very unsteady, but at Saugor Island they were more normal, with a slight excess of north-easterly and south-easterly components. At Chittagong, as well as at Cachar, southerly winds were deficient, while those from northerly and easterly quarters were above the average. On the other hand, in the Assam Valley, northerly and easterly winds were less frequent than usual, while those from south, west, and north-west exceeded the average. At Akyab the winds were more easterly than is generally the case; those from south-west were deficient, and those from north-east in excess of the average.

Although the mean movement of the wind along the coast-line, and generally throughout the delta, was less than the average in June, such was not the case further inland. At Berhampore the winds were not only steady from normal directions, but the mean movement was above the average. This was also the case at Hazareebagh, where the winds were, however, much more easterly than is generally the case. At Gya, within the region of low pressure, calms were very frequent, northerly and westerly winds deficient, but those from south-east much above average. At Patna and Monghyr, now to the north of the low-pressure region, the winds were stronger and steadier than the average, with a deficiency of northerly, and a large excess of easterly, components. On the other hand, at Purneah and Darjeeling, further north, and at Benares, further west, while westerly winds were also very deficient, those from northerly and easterly quarters were much above the average. In Central India, to the south of the region of low pressure, the winds were steadier than usual from west-south-west, somewhat more southerly than they generally are in this month. At Madras they were very steady, those from south-west being much in excess of the average; but on the other hand, at Port Blair, easterly and southerly components were above the average, while those from south-west were remarkably deficient compared with normal years.

The peculiarities of the winds in June, and their deviations in certain places from their usual prevailing directions, were exactly in conformity with the abnormal distribution of pressure in that month, which has been already described. The lowest pressure over the region to which the tables refer was at Jhansi. But in a south-easterly direction from Agra there extended an irregular wide belt of country, narrowing in somewhat between Jubbulpore and Benares, but again widening out into a loop, which extended, on the one hand, nearly as far north as Patna, and as far east and south as Sambulpore and Raipore, within which the pressure was much lower than to the north, east, south, and south-west. Into and round this region of relatively low pressure,

which was more sharply defined, more extensive, and lay much further south and east than usual, the monsoon blew from both coasts—the current from the Bay of Bengal sweeping round its margins in a curve, while that from the Arabian Sea came from west and west-south-west across the Berars and Nagpore. It was round this region of low pressure, over which an ascending current must have existed, that the precipitation of vapour during the month was so unusually copious; and its position and extent is sufficient to explain the abnormally heavy rainfall in the Central Provinces, Chutia Nagpore, Behar, and the North-Western Provinces. The pressure over Northern India was abnormally high in this month; but it was excessively so in Bengal, the greatest deviation being at Berhampore. One of the effects of this high pressure and the unusually sharp gradient from east to west must have been to divert the vapour-bearing currents more to the westward than usual. It also appears from the great excess of easterly and southerly winds at Port Blair, and the deficiency of those from the south-west, that even in the south of the Bay the monsoon current was thrown more to the west than usual. This was probably one of the causes of the deficiency of rainfall in Bengal in this month, and the chief cause of its scantiness along the Arakan coast, in Eastern Bengal, and in Assam.

But the low velocity of the winds in the delta and round the northern shores of the Bay, notwithstanding their superior steadiness, shows that the monsoon current from the Bay of Bengal was weaker than usual. And that this was the case may be also concluded from the fact that the high pressure over Northern India was not compensated for by an equal increase in the south of the Bay. It may hence be inferred that the quantity of vapour carried northwards was less than the average, and this inference is supported by the tables of vapour tension. For although the air was not drier than usual, it has been seen that in Lower Bengal and round the northern shores of the Bay the quantity of vapour in the atmosphere, near the surface at least, was below the average. The monsoon had, however, been much stronger than usual in the preceding month, and it is probable that its weakness in June did not very considerably affect the rainfall of that month in the northern districts of Bengal, in Behar, and the North-Western Provinces, where the supply would be in some measure drawn from the abundant store which had been carried northwards by the strong southerly winds which prevailed unusually early all over the Bay in May. But the weakness of the monsoon in June would be calculated to affect very considerably the rainfall of that month in the delta and round the shores of the Bay, and, later on, the rainfall further inland to the north and north-west.

Another probable effect of the relatively high pressure over Bengal was to render northerly winds less common than usual by decreasing the gradient from the northwards. And the steadiness of the winds in June, over the delta and Eastern Bengal, was also unfavorable to the precipitation of whatever vapour may have been carried overhead. For, it is not only necessary to have a sufficient supply of vapour in the atmosphere to insure heavy rainfall. In order that the vapour may be precipitated it must be cooled down to its temperature of saturation, and this is effected either by an ascending current over a place of low mean barometer, or by contrary winds, produced by sudden fluctuations of pressure, which may either, when lower in temperature, cool down the vapour-bearing current directly, or, when denser, may force it upwards into colder regions, and so produce the same effect. It has been seen that these conditions, favorable for precipitation, were mostly absent in Lower Bengal, and hence it is probable that a larger proportion than usual of whatever vapour was present in the air was carried northwards and westwards. On the other hand, at Cuttack, the conditions required for precipitation were particularly favorable. Throughout the whole of those parts of Northern India referred to in the tables, this was the only place where the pressure of the month was below the average of past years. It was, in fact, lower than at Saugor Island. Usually the pressure at the former place in June much exceeds that at the latter. As a consequence the winds were unsteady, calms were unusually frequent, and while south-westerly winds were not deficient, those

from northerly quarters were above the average. There was unusually heavy rainfall at Cuttack, and over the southern parts of Orissa.

The description of the winds in June requires but slight alterations to make it applicable to those of July. Except that they became much more easterly than the average in Bengal, in Orissa, and on the Arakan coast, and more southerly in Central India, all the characteristics which had distinguished the winds in June were maintained or further intensified in July. There was, in fact, little change, on the whole, in the distribution of pressure; but the minimum was now transferred to Agra, while the pressure at Gya rose considerably comparatively to other places. The effect on the rainfall of the weakness of the monsoon in June as well as in July now began to be felt in parts of the North-Western Provinces and Behar, as well as all over Bengal. Still, however, a larger proportion of the vapour in the atmosphere than usual appears to have been carried without precipitation over Bengal to the north-westwards, and round the margins of the region of relatively low pressure the rainfall in the North-Western Provinces was tolerably abundant. In the Central Provinces, round the south-western margins of the same low-pressure region, it was as plentiful as in the previous month. It appears, indeed, that, throughout the early months of the rainy season, the monsoon current from the Arabian Sea was stronger and more southerly than usual, while that from the Bay of Bengal was weaker and had a more westerly tendency (from east towards west) than is generally the case. And it is not improbable that some of the excess of rainfall in parts of the North-Western Provinces and Behar, as well as in Southern Orissa and Chutia Nagpore, was derived from the western sea. The heavy rainfall in Orissa in the latter days of the month was, however, caused by stormy weather in the Bay. In other words by fluctuations of local pressure producing contrary winds.

While the pressure increased as usual in August in Southern India, Central India, and in the North-West, there was but a very slight increase in Chutia Nagpore, Behar, and the adjoining districts of the North-Western Provinces; and in Bengal the mean pressure at some places (Calcutta, Jessore, and Dacca) was even slightly lower than in the preceding months. It resulted from this that while the pressure in the south of the Bay rose above the average, it was considerable below the average in Bengal, Orissa, Chutia Nagpore, Behar, and parts of the North-Western Provinces. As a consequence of this distribution of pressure, the monsoon current was drawn up the Bay with renewed vigour, and the mean movement of the wind in August was generally considerably above the average. On the whole, the winds were much more normal in this month than they had been since the commencement of the monsoon. In Orissa and at Saugor Island, however, they became more westerly than usual—much more so than in the preceding month—and they were also steadier. In Eastern Bengal and in Behar they continued more easterly than the average, and very steady. In the North-Western Provinces, as is usual in this month, they were very variable, and such was also the case in Assam. The winds in the Central Provinces were remarkable for their steadiness from their normal westerly quarters.

Not only was the mean pressure over Bengal almost constant in the early months of the monsoon, but in July and August, and especially in the latter month, the fluctuations of daily pressure were also unusually small. The steadiness of the winds, and the scantiness of the rainfall in Bengal, were probably in a great measure to be attributed to this uniformity of pressure. The periods of heavy rainfall, in the south-west monsoon months, are intimately connected with the periods of atmospheric waves; and it is during the rise after the passage of the trough of a wave that the heaviest rainfall occurs. But in July, and more especially in August, the waves of pressure were unusually small. In particular from about the 5th of August to the 24th of the month the variations of mean daily pressure were insignificant, and during the same period there was but very little rainfall in Bengal.

In consequence of the rise of pressure to the north-west and the south there was some change in the position and extent of the region of low pressure, which in

this month may be regarded as having had for its boundary the isobar of 29·6 instead of that of 29·55, which was taken for its limit in July. Parts of Orissa, the southern districts of Behar, and the greater part of the North-Western Provinces were now included in the relatively low-pressure region, while the trough of lowest pressure extended from Agra along the Ganges to Benares and thence to Hazareebagh, where the absolute minimum existed. Along and north of this trough of lowest pressure the rainfall during the month was much in excess of the average. In Central India, along the southern margins of the area of relatively low pressure, the rainfall was excessive; and in Orissa, near its south-eastern limits, as well as at Saugor Island, it was also above the average.

The sea winds in Southern Bengal and Orissa in September were much steadier from the south than is generally the case in this month, although their velocity was somewhat below the average. In the North-Western Provinces and in Behar the winds were, as is usual at this season, very variable, but northerly components were above the average at most places. These were also the characteristics of the winds in Assam and on the Arakan coast. In Central India, and also at Hazareebagh, westerly and north-westerly winds were above the average. The barometric depression which had existed in the early months of the monsoon in Chutia Nagpore and the southern districts of Behar and the North-Western Provinces was now almost completely obliterated, and differences of pressure over the land became small and undefined. The pressure over the Bay, however, was still considerably higher than that over the land, and a steady monsoon from the south prevailed over Bengal. But this current had ceased to advance far inland to the west and north-west, and consequently the vapour which it carried was precipitated in larger proportions than hitherto over the Lower Provinces. The rain which fell in this month in the North-Western Provinces, as well in the northern districts of Behar and Bengal, was probably in a great measure derived from the supplies of vapour which had been carried northwards in the preceding months, and especially in August, when the monsoon was unusually powerful. It is to be remarked that it was in the northern districts of Behar and Bengal that the September rainfall was so excessively heavy. Here there had been very scanty precipitation in the preceding month, and an unusually large charge of vapour was probably present in the atmosphere, which would be further augmented by new supplies from the south, and by the vapour now carried back by the northerly and north-westerly winds. This region was in fact in this month the terminous of the southerly winds from the Bay, and over it there must have been an ascending current. The most favorable conditions for precipitation were afforded not only on this account, but also by the occasional intrusion of cold, northerly currents into an atmosphere supercharged with moisture. Even as far south as Calcutta the two heaviest falls of rain during the month, on the 23rd and 30th, were produced by the intrusion of a north-westerly current.

The land winds in October were much less westerly than usual over the parts of Northern India to which my data refer. In Assam the prevailing direction was north-east, and such was also the case at Berhampore and Hazareebagh, where north-westerly winds usually predominate. In the delta the winds were much more easterly than usual, and south-easterly components were above the average. In Orissa, however, although north-east was the prevailing direction, westerly winds were above the average; and at Vizagapatam westerly, and Madras south-westerly, winds were unusually prevalent. The periods of heavy rainfall in the Lower Provinces in this month were those of general atmospheric disturbances, which produced cyclones in the Bay of Bengal. Except in the delta, where winds from southerly quarters were still frequent, the rainfall must have been principally drawn from the vapour which had been carried northwards and eastwards in previous months, and which was now brought back and precipitated by the easterly and north-easterly winds. The Madras coast was now in the region

of low pressure, and the battle-ground of the monsoons; and while vapour continued to be carried abundantly from the south, the north-easterly monsoon would still be charged with excess of moisture. In this region October is the wettest month of the year, and the excessive precipitation in 1874 was produced by frequent cyclonic disturbances in the Bay.

In the two last months of the year, and especially in December, the northerly monsoon blew with unusual steadiness, and with a velocity much above the average. In Bengal and Orissa, as well as at Hazareebagh, the winds in November were less westerly than usual, but in December the easterly deviation disappeared, and the winds blew with great steadiness and high velocity from their normal quarters. At Madras the monsoon was strong in November, but unusually powerful in December, and in both months more northerly than is generally the case. At Port Blair south-east continued the prevailing direction in November, and it was not until December that the north-east monsoon set in with any steadiness. The prevalence of south-east winds at Port Blair in November affords additional evidence in favor of the existence of the barometric depression to the westward of that place, which has been mentioned at page 18. On the average, in this month 60 per cent. of the winds are from north-east and 16 from south-east. In November 1874 only 27 per cent. were from north-east, while 50 per cent. were from south-east.

SUMMARY.

THE first month of the year was remarkable for an abnormally high atmospheric pressure and a low temperature over the greater part of the area to which my data refer. As early as this, however, and even in the latter months of 1873, there appeared that barometric depression over Hazareebagh and parts of the North-Western Provinces which further developed itself in subequent months, and which had such an important influence on the meteorology of the year. Equally persistent throughout the year was a tendency to high atmospheric pressure at Darjeeling, in Assam, and at Chittagong. The cold weather set in very early in 1873, and lasted much longer than usual in 1874. In Bengal the early months of the year were characterized by an unusual prevalence of westerly winds. But in the end of March, with a change in the distribution of pressure and the direction of the prevailing winds, the temperature increased with remarkable rapidity; and in April and May the heat in the North-Western Provinces, Behar, Chutia Nagpore, and in parts of Bengal became excessive, while it was colder than usual in Assam. As a consequence of the abnormally low pressure over Northern India in May, especially throughout and round the region of persistent barometic depression before noticed, the sea winds were unusually powerful, and the south-west monsoon current prevailed over the Bay much earlier than its accustomed time. The rainy season appears to have commenced in Ceylon about the 2nd of May; in Eastern Bengal it commenced about the 11th; in Orissa and Western Bengal about the 23rd; and in Behar about the 1st or 2nd of June. It appears probable, from the tables of vapour tension, that the branch of the monsoon from the Bay of Bengal in the early months of the rains was somewhat deficient, at least near the surface, in its supply of moisture. And if this was the case, it may have been owing to the low temperature in the south of the Bay, where, at Port Blair, the deficiency of solar heat up to September (although the sky was less cloudy than usual) was especially remarkable. But I am not prepared to say that the quantity of vapour in the air at the surface can be regarded, under all circumstances, as an accurate measure of that which is diffused upwards. In the months of April and May, at least, it appears probable that a greater amount of vapour than usual was carried over Bengal to be deposited in other regions. But whether the excess in these other regions was less or not, on the whole, than the deficiency in Bengal in these and in subsequent months, there are of course no means of ascertaining.

The excessive rainfall in Assam and the adjacent hills in May was one of the most remarkable characteristics of the year. It is clear that the enormous

quantity of vapour which was precipitated over these regions must have arrived in some way from the Bay of Bengal. But that it was not carried there by the surface winds will appear from the following statistics. At Sibsagar, where the excess of rainfall above the average was greatest, 71 per cent. of the observed winds were from north-easterly quarters (north to east), and only 14 from south-westerly (south to west). At Goalpara a similar classification gives 74 per cent. and 6 per cent., respectively, and at Silchar 56 and 19 per cent. It is evident, then, that the vapour, upon which the spring rains in Assam, and probably in parts of the northern and eastern districts of Bengal, depend, must be carried in an upper current. The existence of an upper westerly current from the heated plains of Northern India towards the cooler regions of Assam and the adjacent hills is probable from the circumstances of pressure and temperature at the season. In May 1874 the isothermal of 80° lay a little below Silchar and Goalpara, running from E.S.E. to W.N.W.; that of 75° passed close to Sibsagar. A very large portion of Central India was enclosed by the isothermal of 95°. The isobar of 29·70 lay to the westward of Silchar and Sibsagar; that of 29·65 passed through Dacca and a little to west of Goalpara; while the region of lowest pressure, bounded by the isobar of 29·55, extended, as has been already pointed out, from Hazareebagh towards Roorkee. It is to be remembered that the upper currents move from a region of high temperature and low surface-pressure, where the air is most expanded upwards, towards a region of low temperature and high surface-pressure, where the atmosphere is most condensed into the lower strata. The inference then is that from the heated plains of Northern India in the hot weather months there must be an upper westerly current towards the cooler regions of Assam, above the southerly winds of the delta. It seems probable that the vapour carried from the Bay of Bengal by the southerly winds in the hot weather months is mostly diffused upwards and transferred by the westerly current to Assam, where that current must descend, and where its vapour would be precipitated by the cold, north-easterly surface winds. It is indeed otherwise difficult to account for what becomes of the enormous quantity of vapour which must be carried inland over Bengal by the powerful southerly sea winds in the hot weather months. Little of this vapour is precipitated over Orissa or Western or Central Bengal, except by an occasional nor'-wester, and still less finds its way to Behar or the North-Western Provinces until the rainy season has regularly set in, when the upper westerly current propably ceases, as the surface pressure in Assam diminishes and the temperature increases. If this be the true explanation of the spring rains in Assam, the excessive precipitation in that region in May 1874 is completely accounted for by the very unusual strength of the southerly sea winds over the delta in that month*; by the abnormally low surface-pressure and high temperature over the plains of Northern India; and by the relatively high surface-pressure and low temperature over Assam.

In June and July, in consequence of the abnormal distribution of atmospheric pressure, as before noticed, the vapour-bearing current from the Bay of Bengal was weaker than usual. It was carried more to the westward, towards the region of low pressure, than is generally the case, and, at some distance inland, with greater velocity and steadiness than usual. This, in a great measure, accounts for the scantiness of the rainfall in Bengal, as well as its copiousness to the west and the north-west, as already fully described. There was in these months, and up to the first week in August, a persistent tendency to a relative

* In the present year I have again obsewed a connection between strong southierly winds in the delta and unusally heavy rainfall in the Assam Valley in the month of April. There are unfortunately no systematic observations of the motions of the clouds, that I am aware of, in this part of India, and indeed the opportunities of observing the motions of the upper clouds are extremely rare in the hot weather months. The following note from my diary, dated the 18th of April 1875, may, however, be worth recording as bearing on this subject:—"Very strong southerly winds have been prevalent for some days, and the temperature has been much above the average—102·5°, and several times above 100° at 4 P.M. in the shade. From about 6-30 to 7-30 P.M. on the 18th it was blowing almost half a gale of wind from the south, but slightly inclined to east. The sky was partially covered with cirro-cumuli, and there were scuds lower down, but still very high. The cirri and cirro-cumuli were very much riven and distorted as if by wind; yet there was apparently very little motion, even in the lower scuds. I had a good opportunity, however, of observing the motions of these lower dark clouds over the moon, which was high at the time. They were moving from west to east, slowly, while at the surface it was blowing half a gale of wind from the south. I think it is highly probable that an upper westerly or north-westerly current over the delta is a more constant phenomena at this season than has generally been supposed, and that the descent of this current, forcing up the southerly and south-easterly surface winds, affords the explanation of the well-known nor'-westers."

barometric depression in Southern Orissa and the north-western region of the Bay, the effect of which must have been to arrest the vapour-bearing currents and to deprive them of a larger proportion of moisture than is generally precipitated in this region. In Southern Orissa, accordingly, the rainfall was unusually abundant; whilst throughout the Midnapore, Howrah, and Hooghly districts it was more deficient than elsewhere in Bengal.

In September, with a general increase of pressure and a change in its relative distribution, the barometric depression, which had so long existed in Chutia Nagpore, the southern districts of Behar, and in the North-Western Provinces, was almost completely removed, and northerly and westerly land winds commenced to replace those from easterly quarters, whilst the southerly sea winds from the Bay over the delta continued steadier than usual. Thus the vapour-bearing current, which still continued from the Bay of Bengal, ceased to be carried far westwards. There was, in fact, a complete reversal of the atmospheric peculiarities which had previously contributed to the scantiness of precipitation over Bengal, and the September and October rainfall was unusually heavy. The rainy season terminated after a heavy burst on the 31st of October in Behar and the northern districts of Bengal. In Southern Bengal and in Orissa it continued for a few days later. The last month of the year was colder than usual, and the northerly monsoon was steadier and its velocity higher than is generally the case. As a consequence, in Calcutta at least, the customary cold-weather fogs were conspicuous by their absence.

STORMS.

It has been already observed that storms were of unusual frequency in the Bay of Bengal in 1874, as they had also been in 1872. On the 5th of May a cyclone was severely felt at Madras, but it broke up before reaching land. In June, July, and the first week in August stormy weather was very prevalent in the north of the Bay, and the gales which were formed were all of a cyclonic character. On the 14th, 15th, and 16th of October a great cyclone and one of unusual violence passed up the Bay and caused fearful destruction of life and property in the Balasore, Midnapore, and Burdwan districts of Bengal. Two cyclones were felt at Coconada : one on the 26th of October, and the other on the 2nd of November. Another cyclone broke up just before reaching southern Orissa on the 12th of November; and finally there appears to have been a cyclone in the south of the Bay, which probably advanced some distance, but broke up before reaching Madras on the 12th of December.

Cyclone of 3rd to 5th of May.—The earliest account I have of this storm is from latitude 10° N., longitude 84° E., where the ship *Pride of Canada*, on the early morning of the 3rd of May, encountered the gale, round its north-western quadrant. The *Pride of Canada* at noon of the 2nd was in latitude 10° 9′ N., longitude 83° 40′ E., and had a moderate breeze from N.N.W. In the afternoon the appearance of the weather became threatening, the barometer commenced to fall rapidly, and the wind by 3 P.M. had veered to north. The ship was at this time under close-reefed topsails. At 3 A.M. of the 3rd it was blowing hard, with heavy rain, and the ship was laid to under the mizen staysail. At noon her position by account is given as latitude 10° N., longitude 84° E. But it is probable, from the way the ship must have drifted before the northerly wind, that she was somewhat further south than the above estimate would indicate; and this is borne out by her position by observation at noon of the 4th, after the cyclone had passed, which is given as latitude 9° 46′ N., longitude 84° 40′ E. From noon of the 3rd the vessel had the wind from the north, blowing with hurricane force, and got into the vortex of the cyclone about 3 P.M. From this hour it was nearly calm for about twenty minutes, after which the wind recommenced to blow with terrific force from S.W., from which direction it continued for the remainder of the day. By 4 A.M. of the morning of the 4th the weather had moderated, and the *Pride of Canada* proceeded up the Bay. She had a moderate south-westerly breeze up to the Sandheads.

From the above it appears that the position of the centre of the cyclone at 3 P.M. of the 3rd was, approximately, latitude 9° 40′ N., longitude 84° 20′ E. The barometer of this ship stood at 29·5 inches (uncorrected and unreduced) before the storm. At 3 P.M. of the 3rd, before entering the vortex, it was recorded as 29·1. No reading is given from this hour until 5 P.M., when it stood at 28·9. But it had probably fallen much lower than this while the vessel was in the central calm.

About the same time that the *Pride of Canada* met the western quadrant of the cyclone, the *Philosopher* was some 70 or 80 miles to the westward, and had a heavy gale from W.N.W., with torrents of rain. At noon of the 2nd the position of the ship by dead-reckoning was latitude 8° 38′ N., longitude 82° 31′ E., and the wind was light from W. by N. In the afternoon the wind increased, and it became squally from W.S.W. round to N.W. In the early morning of the 3rd it was blowing a heavy gale from W.N.W. At noon the ship's position by account is given as latitude 9° 58′ N., longitude 82° 54′ E. But it is probable, as appears from subsequent observations, that the true position of the vessel was fully a degree further south. It continued to blow a heavy gale, backing round to W.S.W., up to 8 A.M. of the morning of the 4th, after which the storm gradually moderated.

The next account I have of the cyclone is from the *Tenasserim*. At noon of the 4th the position of the ship by dead-reckoning is given as latitude 12° 54′ N., longitude 82° 26′ E. The wind from N.N.W. had gradually increased from midnight of the 3rd, and at noon of the 4th it was blowing a strong and rapidly-increasing gale from N.W., with heavy squalls and torrents of rain. The barometer (Board of Trade, No. 146) which had stood at 29·616 (reduced for temperature and to sea-level) at midnight, had fallen to 29·390 by noon. At 4 P.M. the wind had backed to west, and at 6 P.M. the lowest reading of the barometer, 29·125, was recorded, with the wind in the same quarter, blowing a whole gale, force 10 on Beaufort's scale. At 8 P.M. the barometer had risen to 29·217, but the wind, still from the west, had increased in force to 11, at which strength it continued up to 2 A.M. of the 5th, when it had gone round to W.S.W. By 8 A.M. the storm was moderating, and the wind went round further to S.W., and to S.S.W. at noon, when the ship's position by account is given as latitude 11° 32′ N., longitude 83° 27′ E. It appears, however, from subsequent observations that the true course of the ship during the storm must have been considerably to the southward of the course as estimated by dead-reckoning. The centre of the cyclone was probably in about latitude 11° 40′ N., longitude 82° 40′ E. at 6 P.M. of the 4th.

From this time the cyclone appears to leave advanced slowly on its north-westerly course. The S. S. *Patna* put to sea from Madras at 6 A.M. of the 5th, with the wind blowing a fresh gale from W.N.W., and steered a S.S.E. course until noon, when she was hove to, heading N.E. The steamer throughout the day had a strong westerly gale, changing occasionally from W.N.W. to N.W. and then to west. But she does not appear to have been at any time within the radius of the cyclone, which probably passed her considerably to the eastward about 6 P.M., when her barometer was lowest. The circumference of the cyclone proper appears to have just reached Madras about midnight, when the wind was north and strongest—velocity 49 miles an hour. An hour later the lowest reading of the barometer, 29·208, reduced for temperature and to sea-level, was recorded. Shortly after this time the storm appears to have broken up. The barometer rose rapidly, and the wind moderated quickly, and afterwards went round to the eastward.

The Government Astronomer at Madras, in an account of the storm published shortly after its occurrence, made the following remarks:—"Agreeably to accounts received from ports to the northward and southward of Madras, it appears probably that this cyclone originated near the Andamans; travelled slowly across the Bay, and died out before it reached the land, as many do.

It was of much longer duration (about twenty-seven hours), and the barometer fell lower than during either of the last two cyclones on 26th November 1865 or 2nd May 1872. The maximum wind velocity (mean velocity ?) was 47 miles in 1865, and 53 miles in 1872."

From the data before me, however, it appears that the probable place of origin of the cyclone was about latitude 9° N., longitude 85° 20′ E. Its course from this was north-west, and it travelled between the afternoon of the 3rd and that of the 4th at a rate of about six or seven miles an hour. Approaching Madras, and just before it broke up, it appears to have moved much more slowly. The cyclone of the 2nd of May 1872 was generated very near the same place, its course was very similar, and it appears to have been formed under like conditions. The long continuance of the storm at Madras may in some measure be accounted for by the slow progress of the cyclone as it approached that place. But it appears that strong north-westerly gales extended about the time of the cyclone over many degrees of latitude, and in fact were felt over the whole of Southern India, as well as at sea. These gales were accompanied by abnormally heavy rainfall. At Madras 7·1 inches fell between noon of the 4th and the evening of the 5th; nearly all before the place was within the circumference of the cyclone proper, which broke up immediately after reaching this latitude.

Regarding the atmospheric conditions which preceded the formation of this cylone I have got some important information from the logs of several ships which were about that time coming up from the equator towards Calcutta. For most of these data I am indebted to the exertions of the Harbour Master of this port, Captain Falle. Some of the masters of vessels, however, courteously placed extracts from their logs at my disposal immediately on arrival. I shall here give some abstracts from the logs of these vessels, together with a short sketch of the meteorology of the region for a few days before the generation of the cyclone.

The following table shows the state of the atmospheric pressure on the eastern and western shores of the Bay from the 25th of April up to the 29th, compared with the average pressure for the same stations for the months of April and May of the same year. The pressures are reduced for temperature and to sea-level, and are comparable with each other:—

	25th.	26th.	27th.	28th.	29th.	Mean for April and May.
Vizagapatam	29·855	29·829	29·830	29·815	29·811	29·768
Madras	·869	·856	·842	·857	·820	·792
Port Blair	·880	·867	·858	·874	·797	·837
Nancowry	·859	·902	·885	·824	·805	·841

It appears from this table that the pressure was very high for the season on both sides of the Bay on the 25th of April, but especially so at Madras. From this date it gradually decreased.

The barometric observations of ships are unfortunately generally useless for comparison in consequence of the corrections of the instruments being unknown. There were, however, in the Bay at this time two ships with instruments supplied by the Board of Trade for the purpose of keeping meteorological registers. The masters of these vessels courteously placed extracts from their observations at my disposal, and furnished me with the elevations of the cisterns of their barometers above sea-level. It is probable that the instrumental errors in these cases are not so large as altogether to vitiate a comparison of the barometric observations with those on the opposite shores of the Bay.

The pressures from the 30th April to the 5th May, reduced to sea-level and reduced for temperature, were as follows:—

	30th.	1st.	2nd.	3rd.	4th.	5th.
Vizagapatam	29·775	29·807	29·785	29·737	29·680	29·680
Madras	·791	·803	·790	·729	·654	·379
Port Blair	·797	·802	·840	·785	·739	·771
Nancowry	·795	·794	·826	·777	·797	·755
	3° 19′ N.	6° N.	8° 39′ N.	12° 15′ N.	15° 58 N.	19° 1′ N.
	87° 29′ E.	88° E.	87° 48′ E.	87° 33′ E.	87° 27′ E.	87° 40′ E.
Rajmahal	29·746	29·695	29·737	29·663	29·658	29·700
		10° 59′ N.	11° 54′ N.	12° 53′ N.	12° 54′	11° 32′
		81° 33′ E.	81° 22′ E.	81° 15′ E.	82° 26′	83° 27′
Tenasserim	.....	29·781	29·761	29·674	·278	·525

It will be seen from the above table that the *Rajmahal*, running a northerly course up the centre of the Bay, had a considerably lower mean pressure than that either to the eastward at Nancowry and Port Blair, or to the westward at Madras, and the differences are such as could hardly be accounted for by any probable error of the ship's instrument. The *Tenasserim* was running a northerly course not very far to the eastward of the longitude of Madras, and her barometer was also lower than that at Madras. The increase of pressure to the eastward on the 2nd, just before the formation of the cyclone, as shown in the above table, is deserving of notice.

The data thus tend to show that a considerable barometric depression existed in the centre of the Bay, between Ceylon and the Nicobars, for some days before the formation of the cyclone, and probably extended over some degrees of latitude. That such was the case is further to be inferred from the wind directions over the same region; and the data in this case are much more ample than those for pressure. The ship *Evangeline*, from Liverpool to Calcutta, had light, south-easterly winds in the south-east trade region up to the afternoon of April the 29th in latitude 5° S., longitude 82° E. But from the 30th of April running into the monsoon region she had strong westerly gales (W.N.W., and afterwards W.S.W.) with at times heavy squalls, and this weather continued up to noon of the 5th of May in latitude 6° N., longitude 84° E. From this she had moderate south-westerly winds. The *Royal Sovereign*, from the Mauritius to Calcutta, crossed the Equator on the 27th of April in longitude 67° 44′ E., and had a strong, squally, W.N.W. monsoon throughout up to Ceylon on the 3rd of May. On the 4th, latitude 8° N., longitude 83° E., she had strong westerly gales, with heavy north-westerly squalls. On the 6th, however, in latitude 11° N., longitude 84° E., she had light winds from S.W. and fine, clear weather. The *Philosopher*, from Liverpool to Calcutta, running northwards to the east of the Ceylon coast from the 29th of April to noon of the 2nd May, had light and somewhat variable winds, but chiefly from S.W. round to N.W. At noon of the 2nd she was in latitude 8° 38′ N., longitude 82° 31′ E., and on the afternoon of that day the wind freshened and became squally from the westward, and afterwards increased to a gale from W.N.W.

It thus appears that in the latter days of April the north-west monsoon was pressing on the south-east trade with great force to about latitude 5° or 6° south, and that on the afternoon of the 2nd of May this same monsoon had extended over the western part of the Bay and Southern India as far as about 9° N. On the night of the 3rd it had reached as far north as Madras.

The log of the ship *Rajmahal*, from Liverpool to Calcutta, enables me to fix with some certainty the eastern limits of this westerly monsoon, at least on

the 30th of April. Mr. Balderston, the Master of this ship, furnished me with an extract from his weather log, kept for the Meteorological Society of London. This register was evidently kept with great care and precision, and I have perfect confidence in these data, which fortunately enable me to give a satisfactory account of the meteorological conditions which gave rise to the Madras cyclone of the 5th of May.

At noon of April the 30th the *Rajmahal* was in latitude 3° 19′ N., longitude 87° 29′ E. On the forenoon of this day she had north-westerly winds (force Beaufort's scale 4 to 5), and overcast weather with squalls and rain. This weather continued up to 10 P.M., with the wind from N.W. and W.N.W. But from this hour the winds became very variable both in direction and strength (force 1 to 6), and there was very heavy rain with occasional squalls. From 3 A.M. of May the 1st, however, the wind became steady from the east, and gradually increased in force from a strong breeze in the morning (force 6) to a strong gale (force 9) in the evening. The sky was almost completely covered throughout the day with stratus and nimbus, and there were constant squalls, and passing showers of heavy rain. At noon the ship was in latitude 6° N., longitude 88° E. On the 2nd of May the weather experienced by the *Rajmahal* was almost the same. The wind, however, was now perfectly steady throughout the day from E.S.E.; its force a fresh gale, on Beaufort's scale 7, and sometimes 8. There were squalls with heavy rainfall at intervals, but passing showers continued throughout the day, and in the afternoon the clouds (stratus and nimbus) were hurrying away to the westward with the surface wind. At noon the position of the ship was latitude 8° 39′ N., longitude 87° 48′ E. On the 3rd of May the *Rajmahal* had the same winds and weather up to about latitude 12° N., at noon. After this the wind somewhat moderated, and the weather rapidly improved. The easterly winds, however, continued up to latitude 20° N., on the 6th, from which they were southerly up to the Sandheads.

It appears from the above that the immediate antecedents of this cyclone were two powerful squally winds blowing in opposite directions—the one from W.N.W., the other from E.S.E.,*—and that there was an intermediate belt of very variable winds, and in which there was an enormous precipitation of moisture. The W.N.W. current, which had previously been blowing with great vigour to the southward, by noon of the 2nd had extended as far as about 9° N. There is little doubt that the cyclone was first formed on the night of the 2nd, or the early morning of the 3rd, in about latitude 9° N., longitude 85° or 86° E., between these opposite winds. Their unusual vigour at the time is, I think, to be attributed to the unusually high pressures beforehand to the eastward and also to the westward, producing a considerable relative depression in the centre of the Bay, which would gradually become intensified by the enormous precipitation along the intermediate belt, between the opposite winds. I have elsewhere† stated that, in the cases which I had been enabled to examine, it appeared highly probable that cyclones in the Bay of Bengal, like those in the South Indian Ocean, were generated between parallel wind-currents blowing in opposite directions, and that the determining causes were probably not local, but far removed from the place of the storm's origin. That in fact the unusual vigour of the opposing winds, which precedes the generation of such storms, is probably produced in the first instance by abnormally high pressures some 10 or 15 days beforehand on both sides of, but far removed from, the belt which afterwards becomes the battle-ground of the opposite currents. In the case of the cyclone now under report no doubt whatever can be entertained of the previous existence of the opposite winds; and it is equally certain that about eight days beforehand the pressures to the eastward and to the westward, especially the latter, were much above the average for the season.

The atmospheric disturbance which preceded and accompanied this cyclone did not extend as far as latitude 15° N. in the Bay of Bengal. The weather

* This easterly wind, which is probably a monsoon from the Malay peninsula and Sumatra, blows with great steadiness across the Nicobar Islands from November to April. It is replaced in May by a westerly or south-westerly monsoon, which lasts up to October.

† Report of Midnapore and Burdwan cyclone of the 15th and 16th of October 1874.

to the northwards was throughout fine and clear, with light variable and southerly winds. It seems to have been otherwise, however, on the western coast. As far as I can gather from accounts which appeared in the newspapers the weather at Bombay was very bad and threatening for some days beforehand up to the 2nd, after which it cleared up. But during the atmospheric disturbance before the cyclone, all along the western coast and throughout Southern India—from Bellary on the north to Cape Comorin on the south—the rainfall appears to have been very abnormally heavy. The W.N.W. gales which preceded and accompanied the cyclone were also felt all over this region. It appears from the log of the *Mallowdah* that these gales were afterwards replaced by a monsoon from W.S.W. The ship was in latitude 5° S., longitude 79° E. on the 2nd, and from this up to Ceylon on the 5th she had strong and occasionally squally winds from S.W. and W.S.W. After this she had light winds from the southward and fine clear weather up the Bay.

STORM OF THE 15TH TO 17TH JUNE.—This was one of those small cyclones which are so frequently felt in the north-west of the Bay at the commencement of the rainy season, but which seldom travel inland. The storm occurred during the passage of the trough of a remarkable wave of pressure, under conditions very similar to those which preceded the Balasore cyclone of the 1st of July 1872. A rapid rise of pressure from the 29th of May to the 3rd of June brought it much above the average for the season round the northern shores of the Bay. From the 3rd of June there was a steady fall up to the 14th. The changes of pressure round the shores of the Bay from this date up to the 18th are shown in the following table, as well as the pressures on the 29th of May and the 3rd of June. The barometric means are reduced for temperature and to sea-level, and are all (except Madras) corrected to the Calcutta standard:—

	29th.	3rd.	14th.	15th.	16th.	17th.	18th.
Calcutta	29·579	29·848	29·604	29·511	29·462	29·441	29·541
Saugor Island	29·586	·848	·590	·472	·403	·401	·533
Chittagong	·644	·897	·673	·613	·568	·608	·698
Akyab	·620	·891	·665	·622	·597	·667	·753
Port Blair	·771	·885	·683	·707	·717	·781	·846
Cuttack	·577	·825	·568	·431	·370	·386	·517
False Point	·594	·833	·564	·431	·324	·367	·532
Vizagapatam	·607	·838	·578	·497	·482	·537	·604
Madras	·695	·847	·641	·636	·662	·707	·726

It appears from the above table that the increase of pressure from the 29th to the 3rd was considerably greater at Calcutta than at Cuttack or False Point, while the decrease from the 3rd to the 14th was greater at False Point and Vizagapatam than to the northwards and the southwards, and also greater at Akyab than at Port Blair to the south, or at Chittagong to the north. On the 14th the pressure at Calcutta was greater than at Saugor Island, where it was considerably higher than at False Point. On the eastern side of the Bay the pressure at Akyab was lower than that at Chittagong to the northwards, or Port Blair to the south. Thus the usual gradient which accompanies the south-west monsoon was reversed in direction along the northern shores of the Bay, and a considerable barometric depression probably existed about the region between latitudes 18° and 19° N.

As a consequence of this distribution of pressure the winds went round on the 14th to north-easterly and easterly quarters at False Point, Cuttack, and Saugor Island. At Madras the wind was from W.S.W. and S.W., and there was heavy rain on the 14th. There was some rain also at Vizagapatam, where the wind was from W. and W.S.W. At Port Blair there was heavy rain on

the 13th, 14th, and 15th, with the wind from S.W. The diurnal velocity increased from 209 miles on the 13th to 319 on the 14th, and 429 miles on the 17th. On the night of the 14th there were some sharp squalls with heavy rain. From the 15th to the 16th the wind at False Point increased in strength from a fresh breeze to a strong gale from east. The Master of the *Bushire Merchant*, at anchor in the harbour, reported that at 9-30 P.M. on the 16th the wind, which had been blowing a strong gale from the east, suddenly shifted to N.E., and that at 11 P.M. it again suddenly shifted to N.W., and that the barometer was lowest at 1 A.M. of the 17th, with the wind in the same quarter blowing a heavy gale. At the Light-house the barometer at 10 P.M. stood at 29·250 (reduced for temperature and to sea-level) and at 4 A.M. of the 17th at 29·285. By 10 A.M. the wind had further backed to the west, and by 4 P.M. to W.S.W., when the barometer had risen to 29·333. It continued to blow a moderate gale from W.S.W., with some heavy squalls up to the afternoon of the 18th at False Point. At Saugor Island the wind on the 16th was from E.N.E. to east, diurnal velocity 319 miles. It veered on the 17th from east at 4 A.M., to S.E. at 10 A.M., S.S.E. at 4 P.M., and south at 10 P.M. The diurnal velocity, however, increased as the wind veered round to south, and finally to S.W., from 319 miles on the 17th to 388 on the 18th, and 508 miles on the 19th: on the 20th it fell to 298 miles. Throughout the 17th the barometer continued very low, but the diurnal oscillations were not obliterated at Saugor Island.

It appears that from about 9-30 P.M. to 11 P.M. of the 16th False Point was within the radius of a small cyclone advancing from the S.E. It is probable that this vortex broke up, and that another was formed further on along the same path to the eastward of False Point. This vortex appears to have advanced very slowly, and it broke up before it reached the land. The only vessel which I have heard of (besides the *Bushire Merchant*, at anchor at False Point) that was in this part of the Bay about the time when the cyclone passed was the *Balkamah*, coming up from the southward. The Master of this vessel reported that he had met with "bad weather approaching to a hurricane below False Point on the 17th June." The heaviest wind was from west to W.S.W., and the barometer was lowest at noon.

During the period from the 14th to the 17th 11·36 inches of rain fell at Cuttack, of which 6·4 inches fell from 6 P.M. of the 16th to 6 P.M. of the 17th. During the same period 9·28 inches of rain fell at Pooree, and 5 inches at Saugor Island; but only 2·6 inches at False Point, of which 2·15 inches fell between 6 P.M. of the 16th and 6 P.M. of the 17th.

As in the case of the Madras cyclone of the 5th of May, the bad weather in the Bay of Bengal was accompanied by bad weather on the western coast. At Bombay rain commenced to fall on the afternoon of the 16th, and 4·68 inches was registered between 4 P.M. of the 16th and 2 P.M. of the 17th. The barometer had fallen on the 17th two-tenths of an inch below its normal height at the season, and the weather was stormy, with occasional strong squalls. Storm signals were hoisted in Bombay at noon of the 17th. Bad weather signals were hoisted in the Hooghly from 1-10 P.M. of the 16th up to the evening of the 18th.

GALE OF 28TH AND 29TH JULY.—It has been before remarked that the pressure over the delta in July was excessively high. In the second half of the month the pressure at Calcutta was more or less persistently higher than the pressure at Saugor Island, which was also above the average throughout the month. As a consequence there was a relative barometric depression in the north-western corner of the Bay, and easterly and north-easterly winds were frequent at Saugor Island, and in Orissa.

On the 27th of July the weather at Saugor Island became threatening. The wind increased in velocity from N.E., and the barometer which had been falling from the day before stood at 29·526, while at Calcutta, where the wind was E. by N., it stood at 29·544. At False Point the barometer was 29·581, and the wind from the west was strong and squally: 1·5 inches of rain was measured in the evening. On the early morning of the 28th the wind at Saugor Island was from N.N.E., and increased in mean velocity from 13 miles

at 5 A.M. to 27 miles at 11 A.M. At noon it veered to N.E., and at 1 P.M. to S.S.E., and its velocity somewhat diminished. The barometer fell steadily throughout the morning. The reading at 10 A.M., 29·329 (reduced for temperature and to sea-level), showed a fall of ·262 since the same hour of the previous day, and was ·036 lower than the reading at 4 A.M. At 4 P.M. the wind had further gone round to south, from which quarter it blew with the greatly increased velocity of 48 miles an hour, and there were strong squalls and heavy rain. The barometer at this hour was lowest, 29·228. Afterwards it rose very slowly. The wind at 8 P.M. went round to S.W., and it continued to blow a moderate gale from this quarter throughout the night and the morning of the 29th. The mean velocity from 4 A.M. to 10 A.M. was 32 miles an hour. At 10 A.M. the barometer had risen to 29·456. At False Point there was a strong squally wind from west up to 4 P.M., when it went round for some time to W.S.W.: 1·5 inches of rain fell on the 27th, and 4·7 inches on the 28th.

At 1 A.M. of the 28th the floating light-vessel *Planet*, on the Upper Gasper station had moderate winds from N.E., with passing squalls of wind and rain. At 4 A.M. the barometer was falling; the wind, now from N.N.E., was increasing, and the squalls were becoming more frequent and powerful. Up to about 9-30 A.M. the wind continued to increase, but after this it became calm, and there was heavy rain and much lightning and thunder. At 11-30 A.M. a moderate breeze sprung up from S.W., and by noon the wind was fast increasing and a heavy sea was rising. The wind between S.W. and S.S.W. gradually increased to a gale at 6 P.M., with terrific squalls and blinding rain. It continued to blow a gale of wind with heavy squalls throughout the night and up to 10 A.M. of the 29th, when the wind commenced to moderate and the weather to clear up. The *Planet's* barometer stood at 29·47 (uncorrected and unreduced) at 1 A.M. of the 28th. At 9-30 A.M. it had fallen to 29·30, at which point it seems to have remained up to 6 P.M. At 8 P.M. it had risen to 29·40.

A report of the storm from the pilot in charge of the ship *Burdwan*, outward bound, is so similar to that from the Light-house that it requires no special separate notice. The ship was proceeding out to sea about noon of the 28th. But on seeing the "bad weather" signal hoisted at the Light-house the pilot turned her round, and came to an anchor in the roads. The changes of wind experienced by this vessel were, however, as would be expected from her position, much later than at the Light-house. Thus at 2 P.M. the wind at the Light-house was S.S.E., while the *Burdwan* in the roads had a strong gale from E.S.E., and the wind did not go round to S.S.E. until 4 P.M., when it was south at the former place. At Calcutta also the wind veered steadily round from N.E. at 10 A.M. to E. by N. at 4 P.M. (mean velocity 22 miles), and by 10 A.M. on the 29th it had only got round as far as S. by E.

This gale presented all the characters of a cyclone. It does not appear to have differed much, except in intensity, from those more formidable storms to which the name *cyclone* is commonly applied. There was a central calm, which seems to have approached the U. G. floating light-ship from S.E., and to have passed right over it. The wind was N.N.E. before the calm at 9-30 A.M., and S.S.W. after it had passed at 11-30. The central calm was apparently of considerable diameter, and was surrounded by a broad ring in which the force of the wind was much less than further from the centre. Saugor Island was within the radius of this belt between noon and 1 P.M., and the centre of the storm probably passed close to the Light-house. The storm appears to have progressed very slowly, and it broke up without having advanced far beyond the mouth of the river. The weakness of the N.N.E. wind, compared with that from the south and S.W. after the centre had passed, both at the U. G. light-vessel and at Saugor Island, is significant, and points, I think, to the reason why the storms generated near the northern shores of the Bay, as this one was, are of such comparatively small intensity, and so seldom advance inland. I have elsewhere* stated that this is probably owing to the fact that most of the course of the north-easterly current is over the land, and that hence it must be considerably retarded by

* Report of Midnapore and Burdwan cyclone of the 15th and 16th of October 1874.

friction, and also somewhat deficient in its supply of moisture. Thus, although most of the conditions necessary for the formation of a cyclone in this region may be present beforehand, the N.E. current never gets sufficiently powerful to produce one of any considerable magnitude or intensity.

GALE OF THE 2ND OF AUGUST.—There was again bad weather in the north of the Bay on the 2nd, and probably from the 1st, of August. This time, however, the disturbance originated on the eastern side of the Bay, nearer to Akyab than Saugor Island, and was propagated from the former towards the latter place. The barometer commenced to fall rapidly on the eastern side of the Bay on the 31st of July and at Saugor Island on the 1st of August. On the latter date the wind at Calcutta was from N.E. and east. It was variable at Saugor Island from N.W. round to south, but became steady from N.E. on the early morning of the 2nd. The following table shows the changes of mean pressure from the 30th of July to the 3rd of August round the north of the Bay:—

	30th.	31st.	1st.	2nd.	3rd.
Calcutta	29·540	29·498	29·453	29·439	29·613
Saugor Island	·535	·488	·428	·377	·617
Chittagong	·619	·571	·523	·611	·744
Akyab	·664	·593	·537	·673	·786

It will be observed that the pressure at Chittagong and Akyab was lowest on the 1st, and had risen very considerably on the 2nd; whereas at Calcutta and Saugor Island it was lowest on the 2nd, and had fallen considerably from the 1st, but rose rapidly on the 3rd. On the morning of the 2nd the wind at Saugor Island was steady from N.E.—velocity about 11 to 12 miles an hour. Scuds were passing from N.E. to S.W., and there was driving rain and all the signs of an approaching storm. There were the same indications as usual at Calcutta, less strongly marked. The barometer at 10 A.M. at Saugor Island stood at 29·365, showing a fall of ·103 from the same hour of the previous day. It had only risen ·008 from 4 A.M., showing that the diurnal oscillation was nearly obliterated. After this hour, however, the wind appears to have veered slowly round as it reached S.E. at 4 P.M., and by 10 P.M. it had gone round to south. The mean velocity between 10 A.M. and 4 P.M. was 16·3 miles, and between 4 P.M. and 10 P.M. 21 miles an hour. At False Point it blew very strong all day from the west, and 3·1 inches of rain fell. At Cuttack the rainfall from the evening of the 1st to 10 A.M. of the 2nd was 4·3 inches. It was only 0·20 at Saugor Island, but at Chittagong 8 inches was measured on the morning of the 1st.

It is probable that this storm was generated on the 1st of August, not very far to the west of the longitude of Akyab, and that it travelled across the Bay in a W.N.W. direction, and finally broke up in the N.W. corner of the Bay. It was very similar to the storm last described, and was probably of no greater intensity. It appears from the way the wind veered that its path was much further to the southward than that of the storm of the 28th of July (which in fact was confined to the N.W. corner of the Bay), and hence it was but slightly felt at Saugor Island.

CYCLONE OF THE 13TH TO THE 16TH OCTOBER.—A full account of this cyclone, which was one of extraordinary violence, although of small area compared with the great Calcutta cyclone of the 5th of October 1864, has been submitted to Government in a special report, and it will be only necessary here to sketch its course very briefly for the sake of future reference. It originated on the forenoon of the 13th October between latitudes 16° and 17° N., and between longitudes 89° 30′ and 90° 30′ E. Its centre struck the coast-line in the N.W. corner of the Bay, at about longitude 87° 37′ shortly after 5 P.M., of the evening of the 15th. It passed 15 miles to the east of Midnapore about 12-30 A.M. of the 16th, and the central calm was over the town of Burdwan between 6 and

7 A.M. In the afternoon, between 1 and 3 P.M., the vortex was passing over the town of Berhampore, the cyclone having then greatly diminished in violence. The general progression of the cyclonic gale, to which the storm after this time was reduced, was traceable as far as the Garo Hills in Assam, over which it finally broke up on the morning of the 17th. The mean path was N.W. by N., and then N.N.W. at sea. It became more northerly as it passed over the land, and gradually curved round to N.N.E., and finally to N.E. Its path on land was throughout to the westward of the path of the cyclone of 1864, but almost parallel to it. Thus Midnapore and Burdwan, which were beyond the destructive limits of the cyclone of 1864, suffered most severely, while Calcutta escaped with a moderate gale.

It is worthy of notice that about the time of the formation of this cyclone the monsoon at Bombay seems to have been blowing with very unusual force. From accounts published in the newspapers I gather that the 13th and 14th were stormy days, and that the rainfall was unprecedentedly heavy, causing excessive floods and considerable loss of life and property. This connection between bad weather on the Malabar Coast and in the Bay of Bengal, which has been so often remarked upon in these pages, can hardly be due to chance. It points to the unity of the monsoon as a whole, and is a further argument in favor of the theory that the primary causes of a cyclone are not local, but are far removed from the place where the storm is ultimately formed.

CYCLONE OF THE 24TH TO 26TH OCTOBER.—I have but little information regarding this storm beyond that obtained from accounts in the newspapers. The Master-Attendant of Cocanada reported to the Master-Attendant at Madras that a cyclone was felt at Cocanada on the 26th. The wind veered from N.E. to east, S.E. and south, indicating that the centre of the storm had passed to the southward of the port. The tide rose unusually high and inundated the Custom House wharf and the ground close to the flag-staff and the Master-Attendant's office. The storm was at its height between 3 and 4 P.M. The weather for some days before appears to have been threatening at Cocanada. The wind was principally from N.E., and there was heavy rain, with occasional sharp squalls.

The influence of this storm was felt at Madras on the night of the 24th and on the forenoon of the 25th as it passed up the Bay. The barometer at Madras stood at 29·860 on the 28th (mean, reduced for temperature and to sea-level). On the 21st it commenced to fall, and on the 25th was down to 29·593. But it rose rapidly on the 26th. The wind was north-westerly from the 20th to the morning of the 25th. In the afternoon it went round to S.W.—mean hourly velocity 20 miles. 2·9 inches of rain was registered on the 23rd, 5·75 inches on the 24th, and 5·11 on the 25th. At Port Blair the barometer was 29·860 on the 19th, and had fallen to 29·695 on the 21st, after which it rose rapidly. At Vizagapatam the barometer fell irregularly from the 19th, when it was 29·872. On the 24th it stood at 29·813, and on the 26th had fallen to 29·699. On the 25th there was registered 3·9 inches of rain, and 8·1 inches on the 26th. On the latter date the wind was steady from east. Before this it had been light and somewhat variable, but principally from easterly quarters. On the 27th and following days it went round to S.W. and west.

To the northwards, and even as far as Calcutta, there were the usual indications of bad weather in the Bay, from about the 23rd or the 24th. The barometer, however, which had fallen slightly on the 21st commenced to rise on the 22nd, and on the 25th it was 29·906 at Calcutta and 29·880 at Saugor Island. On the 26th, when the cyclone was passing at Cocanada, it fell to 29·856 at the former place, and to 29·833 at the latter. On the 26th, indeed, there were all the indications at Calcutta of a cyclone in the Bay. The wind was E. by N., there was drizzling rain, and scuds passing overhead from N.E. to S.W., apparently with great velocity, while the surface wind was light. There were the same weather signs at Saugor Island, where the wind was east, and Cuttack, where it was N.E. At False Point the wind was also N.E., strong and squally, and 2·7 inches of rain fell during the day. These indications of bad weather disappeared first at False Point, where the wind veered round to S.E. on the

morning of the 27th, and it afterwards became calm. At Saugor Island the wind, which had been E.N.E. in the morning, got round to S.E. in the afternoon. It was never strong or squally. At Calcutta, however, the wind veered much more slowly, and the scuds from N.E. to S.W. continued throughout the day, while the barometer rose considerably. There was very heavy rain round the shores of the Bay from the 25th to the 27th, and from the latter date to the end of the month all over the Lower Provinces. In Southern India the rainfall up to the 25th was excessive, and several localities suffered severely from heavy floods.

I have had no report from any vessel which was near the path of this storm. In fact all the ships which were coming up to Calcutta at the time were far away to the eastward. From the Equator up to latitude 6° or 7° N. the winds were strong and squally from W.N.W. to west. From 7° N. to 9° or 10° N. they were from W.S.W to S.W., but more variable and lighter, with occasional strong squalls and heavy rain. From 10° to about 12° or 13° the winds, at least in the eastern side of the Bay, appear to have been very light and variable, with heavy rain and occasional squalls. In the northern half of the Bay they were light, from north-easterly quarters, with occasional squalls from N.N.W. and heavy rain. The log of the *Iron Cross*, from Liverpool to Calcutta, appears to throw some light on the circumstances under which the storm was generated, and to indicate the probable latitude where it originated. The ship, in latitude 9° 21′ N., longitude 90° 12′ E., had westerly winds, with heavy rain on the 20th. On the 21st in latitude 11° 26′ N., longitude 89° 50′ E., the winds were all round the compass. But on the 22nd in latitude 12° 8′ N., longitude 89° 43′ E., the wind backed steadily round from S.W. to south and S.E., and there was a heavy swell from north-eastward, meeting the ocean swell from south-westward and producing a very confused sea. On the following day, in latitude 14° 26′ N., longitude 89° 56′ E., at noon, the winds were from E. by S. to E. by N., and on the 24th, in latitude 17° 18′ N., longitude 90° 30′ E., there were occasional squalls from N.E. and E.N.E., the wind remaining steady throughout the day from the latter quarter. On the 25th, at noon, in latitude 20° 9′ N., longitude 89° 57′ E., the ship had N.N.E. to E.N.E. winds and torrents of rain.

This vessel was too far away to the eastward to have had her winds influenced by convergence towards the cyclone, and her log discloses, I think, the state of affairs in the Bay which gave rise to the storm. The westerly and south-westerly winds appear to have extended only about as far as latitude 10° or 11° N., and from 12° N. they were east and N.E. It is probable, I think, that the storm was generated between these opposite wind-currents in about latitude 11° N., and not further eastward than longitude 86°.

Storm of the 1st and 2nd November.—Cocanada was visited by another cyclone on the 2nd of November. At daylight the wind from the N.W. began to blow in gusts, and by 7 A.M. the wind and sea were rapidly increasing. About 8 A.M. the barometer was commencing to fall rapidly, and the wind had veered to N.N.W., from which quarter it blew with increasing force up to noon, when it was at its strongest. The wind afterwards appears to have further veered round to N.E., and moderated towards evening. This cyclone appears to have advanced towards Coconada from the eastward, and to have broken up at some distance to the S.S.E. of the port without advancing inland. The barometer at Madras was but slightly affected by this storm. In the north of the Bay there were the usual indications of bad weather. On the 2nd the barometer fell slightly at False Point, but more considerably at Vizagapatam.

Storm of the 10th to 12th November.—For an account of this gale, which was evidently cyclonic in character, I am indebted to Lieutenant A. Morean, the Commander of the French steamer *Meinam*. The vessel overtook the western quadrant of the storm on her voyage from Madras to Calcutta. At noon of the 11th the *Meinam* was in latitude 17° 35′ N., longitude 84° 52′ E. Proceeding on a course N. 24° E. she had probably reached near latitude 19° N. by midnight, when the wind from N.N.W. was commencing to get very powerful and the barometer to fall rapidly. Beetwen 1 and 2 A.M. of the 12th the wind backed to N.W., and the bearing of the centre of the storm at this time from the vessel

was probably about E.N.E. The course of the steamer was very properly, and just at the right time, changed to S. 73° E. in order to avoid the centre. Lieutenant Morean probably judged, from the circular theory of cyclones, that the centre was N.E. at the time, instead of about E.N.E. A slightly more southerly course would have brought his vessel into better weather than he afterwards experienced. As it was, however, he always kept at a safe distance from the centre of the cyclone. The *Meinam*, on the above-mentioned course, got round to the southern quadrant of the storm by 4 A.M., and had the wind backing from N.W. to west, and gradually decreasing in force. At this time the centre of the storm was probably about N.N.E. The *Meinam's* course was changed to N. 27° E., and she ran round the southern and eastern quadrant of the storm as it passed by, and had the wind backing to S.W., south, and S.E., and increasing in force as the vessel got nearer to the storm, with heavy squalls and torrents of rain. At noon she was in latitude 19° 56′ N., longitude 87° 32′ E. The wind was S.E., blowing in violent squalls, with torrents of rain. The centre of the storm was probably at this time W.S.W. from the *Meinam*. Proceeding on her course, the vessel soon got out of the radius of the storm, and had northerly winds, with strong squalls and torrents of rain. In the afternoon the wind had moderated considerably.

At False Point it blew a gale of wind from the north on the evening of the 10th and the forenoon of the 11th. At 4 P.M. of the 11th the wind had gone round to N.E., and it continued to blow a steady gale from this quarter up to 4 P.M. of the 12th, after which the wind moderated. 2·3 inches of rain fell on the 11th and 1·2 inches on the 12th. The barometer fell from 29·962 on the 9th to 29·887 on the 11th. It rose on the 12th. At the Eastern Channel floating-light station the afternoon of the 11th was squally, and the wind was from N.E. to east. On the 12th the weather was very threatening, and it blew hard from N.N.E. to E.N.E., with sharp squalls and heavy rain. It continued to blow strong from the same quarters up to noon of the 13th, after which the wind moderated, and the weather cleared up.

This cyclone probably came up from a south-easterly direction, and broke up on the afternoon of the 12th before reaching the land between Pooree and False Point. The usual indications of bad weather in the Bay were very strongly marked at Cuttack, Saugor Island, and Calcutta. The barometer, however, which was very high for the season, was but very slightly affected.

STORM OF THE 10TH TO 12TH DECEMBER.—There was again bad weather in the south of the Bay in the early part of December. The barometer at Madras fell from 30·05 inches (reduced for temperature and to sea-level) on the 7th to 29·870 on the 11th. The wind was from N.W. (the cyclone quarter at Madras) and increased in velocity to a mean value of 24 miles an hour on the morning of the 12th, after which the barometer rose rapidly, and the wind moderated and returned to the usual monsoon quarter. As far as I can gather from reports in the newspapers it appears that several vessels which put to sea from Madras, and stood to the south-eastward, met with very bad weather. I have, however, no particulars. But it seems strange that vessels putting to sea from Madras, before the wind had shown any decided signs of backing to the westward, should choose just the course on which a cyclone would be expected to advance towards that port. A north-easterly course, especially in December, would carry vessels into fine weather, and would always be a safe one until the wind at Madras showed decided signs of backing from north towards west. The error, if my information about the courses taken from Madras be correct, seems to be due to the circular theory of cyclones, and the notion that with the wind at N.W. the centre of the storm must be necessarily N.E. It needs no long experience of cyclones at Madras to be able to draw the inference that, before the place is within the circumference of the winds gyrating round the vortex of the storm, the north-westerly wind may be blowing directly towards the centre. No conclusion, whatever, regarding the bearing of the centre of a cyclone from the direction of the wind can be drawn until it is known, from the fall of the barometer or the decided veering of the wind, that the place is within the circumference of the revolving storm.

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